IN THIS ISSUE:

Confronting the Crisis:
Its Impact on the ICT Industry

Economic Outlook:
Gauging the Recession of 2007-09

Legal Claims: Asset or Liability?

Increasing Legal Hurdles as Subsea Cables Move to the Developing World

An international forum for the expression of ideas and opinions pertaining to the submarine telecoms industry
Welcome to the 43rd issue of Submarine Telecoms Forum magazine, our Finance and Legal edition!

**melt down**
Pronunciation: \melt-dau-n\ Function: *noun* Date: 1956

1: the accidental melting of the core of a nuclear reactor 2: a rapid or disastrous decline or collapse 3: a breakdown of self-control (as from fatigue or overstimulation)*

A meltdown of the fabric of business is underway, yet its impact on telecoms is, at best, unclear.

We suffered our own peculiar industry meltdown in 2002, caused mainly by our own idiotic actions. Yet, in the 24 years I have enjoyed and endured this business, I have always been amazed how little our commercial cycle has tracked regional economics. What we don’t seem to know today is whether that rule will hold true; or, because the nature of this event is worldwide, if our industry will suffer considerably as well.

So I ask the question: Are systems being delayed or outright killed as a result of the worldwide economic storm? If so, where?

Words are funny, simple things.

**re·sil·ience**
Pronunciation: \ri-zil-y-n(t)s\ Function: *noun* Date: 1824

1: the capability of a strained body to recover its size and shape after deformation caused especially by compressive stress 2: an ability to recover from or adjust easily to misfortune or change*

*Merriam Webster Dictionary
Contents

2  Exordium  Wayne Nielsen
5  News Now
10 Editor’s Note  Kevin G. Summers
11 Confronting the Crisis: Its Impact on the ICT Industry
15 Submarine Cables – Some Legal Issues  Mike Conradi
19 An Update On The Subsea Communications Conference!  Anne Leboutillier
23 Economic Outlook: Gauging the Recession of 2007-09
24 Increasing Legal Hurdles as Subsea Cables Move to the Developing World  Glenn S. Gerstell
28 ENTELEC: A Preview  Amanda Prudden
30 Cable Route Surveys Are Not Marine Scientific Research  Doug Burnett
36 Financing Large Infrastructure Projects  Scott Foster
39 Legal Claims: Assett or Liability?  Roche, Winter, Blann
43 Ten Good Reasons to Submit an Abstract for a Paper or Poster at SubOptic 2010  Colin Anderson
47 Back Reflection  Stewart Ash
48 The Cableships
53 Letter to a Friend  Jean Devos
54 Upcoming Conferences
55 Coda  Kevin G. Summers

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Engineering of submarine and terrestrial optical cable, microwave/WiMax, mobile, satellite and RF systems for telecom, oil & gas and government clients
A synopsis of current news items from NewsNow, the weekly news feed available on the Submarine Telecoms Forum website.

- CSC Launches New Enterprise Data Loss Prevention Service
- BT Announces Pay Freeze for 85,000 UK Staff
- TEAMS Shareholders Sign $110 Million Fibre Optic Agreement
- Iberbanda and Alcatel-Lucent demonstrate WiMAX Rev-e capabilities with a pilot network in Andalusia, Spain
- Sunrise Telecom(R) Exploring Strategic Alternatives to Enhance Shareholder Value
- Verizon Business Awarded Department of Defense Contract Valued at Up to $2.5 Billion
- AT&T to Invest More Than $17 Billion in 2009 to Drive Economic Growth
- NSW to lay Germany’s longest power cable to Heligoland
- Fanfare to Integrate iTest With Agilent Technologies’ Multiservices Test Solution
- Global Capacity and XOU Solutions Sign Memorandum of Understanding
- Huawei Marine Wins Contract for Submarine Cable System to Bridge Tunisia and Italy
- Alcatel-Lucent wins contract from Tata Teleservices Limited for expansion of their CDMA/GSM network in 22 states with SDH technology
- JDSU Adds Multiple New Products to ONT Family of Testers
- Siemens reaches long-term cooperation agreement with Fluor
- Switzerland’s Sunrise Expands and Extends Relationship with Alcatel-Lucent and Amdocs to 2015
- BT Appoints Susanne Ruoff To Head Its Swiss Operations
- AT&T Named World’s Most Admired Telecommunications Company
- Tyco Electronics Receives Silver Boeing Performance Excellence Award
- EXFO Introduces High-Performance OSA for Current and Next-Generation Networks
EXFO Launches Next-Generation Field-Testing Platform

Harris Stratex Networks Acquires Telsima Corporation, Gains Technology and Expertise to Enhance 4G Networking Strategy

Pacnet Speeds Up Digital Media Delivery

Alcatel-Lucent has exceeded one million users of its OmniPCX Office solution for SMBs in Iberia

M-net awards contract to Alcatel-Lucent for 100 Mbps fiber access network in Munich area

Alcatel-Lucent signs master distributor agreement with Gateway Distribution

Verizon Business Receives Security Clearance From Government of India to Operate International Gateways

CSC Signs $53 Million IT Services Agreement With Global Oil/Gas Compan

JDSU Introduces New Additions to WaveReady(TM) Family of CWDM/DWDM Optical Network Systems and Modules

ITU-T - New Test Signal Database

Nortel Announces Workforce Reductions

Simple on-site assembly of glass-fiber optic cables

Alcatel-Lucent appoints new country senior officer for Malaysia

Alcatel-Lucent enters relationship with BT Global Services to help organizations secure data on mobile employees’ laptops

Alcatel-Lucent launches a new learning center in Australia

NEC Strengthens Management Structure to Improve Profitability and Drive New Growth

NEC Announces Executive Personnel Changes

Pacific ICT Ministers set priorities to “connect the unconnected”

Alcatel-Lucent and DIEHL Energy Solutions collaborate in Germany to enable more efficient energy and water consumption measurement

Economic growth to come from telecoms investments, says Ericsson CEO, Carl-Henric Svanberg

Fujitsu Laboratories Develops CMOS Transmitter IC for 40Gbps Optical Transmission Systems

Alcatel-Lucent expands portfolio with eco-sustainable broadband access gear that further reduces environmental impact of fiber-based networks

NEC and NEC Electronics Develop 32Mb MRAM for Embedding in SoCs

NEC Pushes International Expansion of Device Management

Pacnet Business Solutions Expands China Footprint with New Points-of-Presence

Telefónica and Huawei sign strategic agreement to deploy “Service Delivery Platform” serving whole Latin America

Huawei Delivers Industry’s First End-to-End 40G Solution
Nortel Obtains Extension of Stay Period Under CCAA And Extension to EDC Agreement

WFN Strategies Enhances Asia-Pacific Telecoms Team with Duhig Addition

NEC Develops a Three-Dimensional Chip-Stacked Flexible Memory and Demonstrates basic SoC Operations

Chunghwa Telecom selects Alcatel-Lucent to deploy Taiwan’s first intelligent control-plane based optical network

Verizon Business Customers to Benefit From Global Network Expansion, Enhancements

Ericsson and Chunghwa Telecom deploy next-generation optical network in Taiwan

WFN Strategies Clarifies Nature of Work

Broadband milestone

Huawei Tops list of Patent Cooperation Treaty applications

NEC and TDC A/S partners to deploy the first Femtocell network in Denmark

Micronesia Telecommunications Providers FSMTC AND MINTA Contract With TYCO Telecommunications to Construct Undersea Fiber Optic Connections

BT Conferencing Launches BT One Source for Polycom Telepresence Solutions

Group to track global future network R&D

New standard gives Identity in next generation networks

Nortel Government Solutions Meets Aggressive Social Security VoIP Network Target

Siemens Equips multi-functional Supply Ships for Australia’s Navy with Propulsion and Power Supply Systems

Siemens Venture Capital (SVC) adds growth capital to its business portfolio

NEC Releases Consolidated Financial Results for the Nine Months Ended December 31, 2008

Nortel Refines Focus of Carrier Business

Alcatel-Lucent and the Institut TELECOM inaugurate their joint laboratory

World Telecommunication Policy Forum to convene in Lisbon - Strategic dialogue to focus on the financial crisis confronting the ICT sector

Ericsson, NEC, NeuStar, Orange, Symlabs and TeliaSonera Lead New Liberty Alliance Telecom Group

Alcatel-Lucent to Provide Multivendor Network Maintenance Services to EMBARQ

Ocean Research Officials Hail Completion of Modernization for U.S. Scientific Ocean Drilling Vessel

Alcatel-Lucent provides update on holdings of Bridgewater Systems

JADE Submarine Cable Jointing Software Released for Commercial Availability

WFN Strategies to Support Windward Telecom’s Trinidad Offshore Project
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CONGRATULATIONS TO LEONARD ALOO OF KENYA, WHO WON AN iPOD TOUCH

ALSO Gaizka Garay of Spain, Kitisak Techamanokul of Thailand, & Winfried Rutzen of Germany, who won iTunes Gift Certificates
My name is Kevin G. Summers; I'm the new editor of Submarine Telecoms Forum. I want to take a minute to introduce myself and give you a hint about all the exciting things we have planned for SubTel Forum.

SubTel Forum has been a part of my life for close to 5 years now. I’ve been working behind the scenes as a graphic designer, taking over layout of the magazine after Ted Breeze, the original layout artist, passed away in 2004. I was, at the time, working for a marketing company near WFN’s corporate headquarters. As the years passed, I became more deeply involved in branding the magazine, and eventually found myself devoting most of my work hours to SubTel-related projects. I was honored this past January when Wayne Nielsen asked me to come on board as full-time editor of the magazine. In addition to my design work, I am also a professional author with numerous stories published by Pocket Books, Creative Guy Publishing and Altered Dimensions. You can visit my website: www.kevingsummers.com if you want to find out more about my work.

I jumped at the chance to serve as the editor of SubTel Forum, and since I was already so familiar with the magazine, I’ve been able to hit the ground running. We’re adding several new features this issue, and you won’t believe the things we have planned for the future.

In case you’re wondering, Wayne Nielsen isn’t going away. He’s going to remain deeply involved in SubTel as the magazine’s publisher, and will continue to write his Exordium column every issue. Also appearing in every issue will be a new column called Coda, which will serve as an epilogue for the issue as well as a place for me to talk about all the great things we have planned for the magazine. The purpose of this Coda is get our readers excited not only about the industry, but also about SubTel Forum. Check out this month’s article about our RSS Feed on Page 55. And since one new feature isn’t enough, I’ve also asked Mr. Stewart Ash to begin writing a regular column on the history of the industry. You can find his column (Back Reflection) on Page 47.

Thank you for your attention. I hope you enjoy the new SubTel Forum.

What do you think? Click on the Letter To The Editor icon and drop me a line. I'd love to hear from you.
1.1. Introduction

These are turbulent times. Unprecedented events have taken place in the banking sector, finance and credit markets, including the disappearance of several global financial icons, and the consequences are far from clear. What initially originated as a niche problem in the US mortgage market has now triggered a global economic slowdown. The world’s largest economic zones are now officially in recession, including the U.S., Japan and the European Union. Indeed, it seems as if this financial crisis may have the potential to transform the entire global economy, its institutions and its industries.

The global economy is currently navigating uncharted waters. Many forecasting firms are struggling to predict the impact and future direction of the economy, on the basis that previous models no longer apply. ITU remains deeply concerned by the impact of the financial crisis on its Member States and Sector Members. In November 2008, ITU has commissioned a Report (“Confronting the Crisis: The Impact of the Financial Crisis on the ICT Industry”) bringing together informed analysis from leading industry experts on the future outlook for the industry and exploring how the financial crisis may impact the telecommunication and ICT sectors, to be published in February 2009. ITU will also host a Strategic Dialogue on the impact of the financial crisis at the World Telecommunication Policy Forum, to be held in Lisbon, Portugal, on 21 April 2009.

The financial crisis could have a mixed impact on the global telecommunication/ICT sector. The credit needed for vital investment in information infrastructure is now more expensive and less abundant. There is evidence that some operators are cancelling or postponing their investment plans. Alternative sources of finance are needed. There is growing pressure on governments to help finance some of the NGNs currently being built or planned. The impact
on consumer demand is uncertain, in reduced
demand or demand for alternative services.
Network operators and service providers (telcos)
are adapting their strategy by taking a rigorous
approach to cost control and focusing investment
on vital services only.

Despite these challenges, however, ICTs also offer
key means of helping ITU Member States weather
the economic storm, not only as a key sector in their
own right, but by boosting economic growth and
increasing economic productivity and efficiency.
The crisis may challenge some businesses, but
it will also revitalize the industry and enable
new entrants with new technologies to thrive.
Technological transformation is at the very heart of
our industry, and the industry can emerge stronger
and more resilient from these challenging times.

1.2. Origins of the Financial Crisis

A crisis that originated in the market for sub-prime
mortgages in the US has now escalated to global
proportions, shaking the global financial sector to
its foundations and afflicting the economies of many
industrialized countries. Recent growth forecasts for
developed countries are notable for their complete
lack of optimism. Output in advanced economies
for 2009 is forecast to contract for the first time
ever in the post-war period, whilst GDP growth
for developing countries is set to decline from
7.9% in 2007 to 4.5% in 2009. A financial crisis on
this scale has not been witnessed since the Great
Depression. A golden era of abundant credit has
ended, as we enter a new era with the immediate
task of rebuilding the global financial system.

The origins of the current crisis lie in the expansion
of mortgage lending to the sub-prime market in
the US from the late 1990s onwards. Property
prices were driven higher through massive growth
in lending, low interest rates and the steadfast
belief that housing was a ‘safe’ investment.
Mortgages were then packaged into complex debt
instruments, which became increasingly popular,
as investors diversified portfolio risk in their ‘search
for yield’ and mortgage lenders passed on credit
risk to investors through mortgage pools, providing
ever greater incentives for sub-prime lending.

Investment banks worldwide became exposed to
the US sub-prime market through their holdings of
these mortgage-backed securities. Their exposure
was further intensified by the growing tendency
of banks to be over-leveraged, using borrowed
funds to augment returns. The US housing market
faltered towards the end of 2005 and burst in
mid-2006. Defaults and foreclosures have reached
staggering proportions, depressing house prices
still further. The mortgage-backed securities that
had been so sought after now became ‘toxic assets’,
with growing exposure around the world.

HSBC was among the first to suffer, when it
reported write-downs of $10.5 billion on sub-
prime investments in February 2007. Inter-bank
lending slowed, as trust between banks faltered
and banks struggled to quantify their exposure
to bad debts and toxic assets. A ‘credit crunch’
developed from mid-2007 onwards, as short-term
inter-bank and commercial lending dried up to a
fraction of previous levels. Governments have
been forced to intervene with capital injections
and debt guarantees to restore liquidity.

The financial crisis spread to the real economy,
as consumer and business confidence collapsed
in the wake of Lehman Brothers’ bankruptcy in
mid-September 2008. Recessionary fears caused
stock markets to crash, whilst oil prices plunged
to under $50 a barrel in response to slowing demand.
Both the US and EU are now officially in recession,
meaning that they have experienced at least two
successive quarters of negative growth. This comes
partly as a result of expensive or inaccessible credit
and negative wealth effects from falling equity and
property values. Some countries, notably Iceland,
Latvia and Hungary, have experienced even greater
economic turmoil and have applied for multi-
billion dollar loans from the IMF.

Current macroeconomic indicators are bleak.
Global trade is forecast to shrink in 2009 for the
first time since 1982, developing country exports
are falling, while the World Bank puts expectations
for GDP growth for developing countries at around
4.5% for next year (down from its previous
projection of 6.4%).

Central banks have responded to the onset of
recession by slashing rates in an ongoing effort to
pressure banks to resume lending to consumers
and each other and to kick-start their economies
with a counter-cyclical stimulus. However,
alarmingly, inter-bank interest rates appear to
have become ‘detached’ from central interest
rates in some economies, while the risk profile
of banks has been transformed towards ultra-
caution. In some countries, interest rates have
been cut to historically low levels, but there is still
a lack of credit readily available, as banks impose
stringent requirements on individual and business
borrowers.

Governments now find themselves navigating
uncharted territory in how best to respond to
the global economic downturn and weaknesses
in the financial system. Most governments now
recognize the need for some form of regulation
of the financial sector to restore confidence
and to prevent further systemic failures. The
growing impotency of monetary policy has led
to widespread agreement on fiscal stimuli and
increased state intervention as possible responses.
1.3. Immediate Impact on the Telecommunication/ICT Sector

The most immediate impact of the credit crunch and financial crisis is a lack of readily available credit and higher commercial interest rates. The cuts in central interest rates in some countries have not been reflected in rates for commercial lending, as banks seek to revive their balance sheets, while banks’ risk profiles have been transformed to veer on the side of ultra-caution, with banks imposing stringent lending requirements on borrowers. The difficulties in the credit market have seen refinancing costs rise sharply, with recent telco debt issuance being secured at spreads of up to 4.75% in late 2008, up by a clear 3-5% compared to the situation pre-crisis (depending on individual firms’ debt ratings). Firms seeking funding for investment now need proven credentials, sound business plans with early cashflow projection, and preferably pre-existing relationships with lenders.

This situation is all the more urgent, given estimates of the supply-side investment needed to modernize the global information infrastructure. A recent study by Nemertes concludes that demand will exceed total broadband capacity at the access layer of the Internet by 2012, with the situation worse than originally projected in the US. Nemertes estimates the global cost of upgrading the Internet to keep pace with demand at US $137 billion over the next five years, with network operators in North America spending 60-70% less than they should be. There may already be, therefore, a major shortfall in the investment needed to bridge the gap between demand and capacity, a shortfall that the financial crisis can only exacerbate.

Alternative sources of finance are needed. There is growing pressure on governments to help finance some of the NGNs currently being built or planned. Many European governments have advocated the need for new IP-based network platforms, and may experience difficulties in allowing them to be postponed, due to the financial difficulties of hard-pressed commercial operators. In September 2008, both the Italian and Greek Governments announced plans to subsidize their national NGN infrastructure. Where bank finance is not available, operators may increasingly explore vendor-financing deals, project, mezzanine or export finance and other types of funding.

Telephone network operators and service providers (telcos) are responding to more expensive credit and uncertain consumer demand by taking a rigorous approach to cost control. When revenues fall, operators usually cut capital expenditure (capex), boosting operating margins and profits. ABI Research estimates that growth rates in global mobile capex may slow from 8.3% in 2008 to 7% in 2009, but mobile capex will probably not decline, at least not on a global basis. Informa finds that operators’ investment plans have not been ‘severely altered’ so far, while many operators acknowledge the importance of investment to ensure that quality of services is maintained.

In terms of regulation, confronted by more expensive financing and uncertain demand, operators are likely to push for regulatory holidays to justify their investments in NGN. The regulatory landscape is already undergoing a major transformation in the shift to NGN. As operators seek to share infrastructure to control costs, there will be greater need for regulation of shared infrastructure, while more M&A activity could accelerate the emergence of converged service providers and the need for converged regulatory bodies could grow.

1.4. Impact on Individual ICTs

In terms of consumer demand, some analysts point out that during the last recession, mobile telephony and broadband Internet access were not yet mass-market services, suggesting that consumer demand for these services has never been seriously tested by a severe recession. Studies of the income elasticity of demand suggest that telecom services may be luxury services in developing countries, while demand may be rather more inelastic in developed countries. There is evidence of reduced demand for broadband service in some developed economies, although worldwide, Point Topic finds that demand for broadband services is so far relatively robust.

The impact of the financial crisis on the mobile markets was not yet evident in the Q3 2008 numbers and will probably only show up in Q4 2008 numbers. Mobile telephony is the communication technology with the single greatest promise to bridge the digital divide. In December 2008, the global market for mobile passed the milestone of four billion mobile connections. This is equivalent to more than half the world’s population having access to a mobile (although in practice the penetration rate is probably below 50% due to individuals owning multiple handsets and not cancelling older subscriptions or pre-paid credit). Growth in mobile has been driven by strong growth in the large emerging markets (especially India and China). Most analysts see no reason why growth in these markets will not continue – indeed, fixed-mobile substitution may intensify due to the financial crisis.

In contrast to mobile, global sales of fixed and mobile WiMAX equipment, as well as phones and Ultra Mobile PCs, had already fallen in Q3 2008 according to Infonetics, and may reduce...
14

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Throughout 2009 due to the recession. With fewer resources available for network roll-out, WiMAX deployment is likely to be inhibited over the next year. Infonetics expects revenue growth to return to the overall market for WiMAX in 2010, with growth driven mainly by mobile WiMAX and developing markets.¹⁸ Maravedis considers that the early impact of the financial crisis has already affected smaller suppliers in the WiMAX ecosystem, but they do not expect the financial crisis to result in a shakeout of the industry.¹⁹ For NGN, although some projects have been postponed, many operators are proceeding apace with the roll-out, as NGN is perceived as the future of the industry. However, the amounts needed for investment in advanced fibre-based networks are of the industry. However, the amounts needed for network roll-out, as NGN is perceived as the future of the industry. However, the amounts needed for network roll-out, as NGN is perceived as the future of the industry. However, the amounts needed for network roll-out, as NGN is perceived as the future of the industry. However, the amounts needed for network roll-out, as NGN is perceived as the future of the industry. However, the amounts needed for network roll-out, as NGN is perceived as the future of the industry. However, the amounts needed for investment in advanced fibre-based networks are phenominal, costing an estimated six plus times more for rural areas as for urban, high population-density areas in the European Union.²⁰ Based on the experience of the UK, Analysys Mason estimates that nationwide deployment of Fibre To The Curb (FTTC) would cost three to four times more than the telecom sector has currently spent to date on deploying the current generation of copper-based broadband services. Twenty Faced with a credit crunch, the deployment of NGN could be delayed, unless more imaginative funding schemes and/or state involvement (at the local or national level) arise. The satellite industry is dominated by large capital-intensive transactions with complex financing packages and long lead times, and could be thus particularly vulnerable to the financial crisis. Satellite’s role as a ‘gap-filler’ for service provision to remote areas could also make it more vulnerable during a downturn, when consumer demand may weaken and there may be less need for spare capacity. However, the long lead times to launch also shield the industry to some extent, since current activity is a reflection of projects planned a few years ago. The impact of the financial crisis on the satellite industry is unlikely to be fully felt for 2-3 years, equivalent to the lead time to procure, build and launch a satellite. This partly explains why many industry observers are still positive – today’s activity reflects deals negotiated and agreed during the height of the boom. Recent growth projections remain positive.

1.5. Investing in the Future

The massive uncertainty surrounding current market conditions has left many economists struggling to forecast the global economy as it navigates uncharted waters. The speed with which the crisis has spread makes it difficult to predict how consumer demand, operator revenues and regulatory responses will evolve. There are few certain answers; rather, there is a range of different outcomes possible for the global telecommunication/ICT sector, depending on the severity and duration of the financial crisis.

The ICT sector is a vital sector underpinning many other critical sectors and driving economic growth. ICTs are key technologies helping ITU Member States weather the economic storm, not only as a key sector in their own right, but also by boosting economic growth and increasing economic productivity and efficiency. Many communication technologies (including mobile telephony and broadband) still offer huge growth potential, with or without a recession.

Previous downturns show that economic crises create openings for disruptive technologies. The current financial crisis is likely to follow a similar pattern. In some ways, it will reassert the old order with those ICT companies with sustainable business models, stable cash-flows and deep pockets regaining some of the ground they have lost to new market entrants. But it will also create new opportunities for new firms with disruptive technologies to thrive, especially where prices are falling and where technology is changing. Investing in knowledge is even more vital in times of crisis, not less so, and could enable the global economy to innovate its way out of this crisis. Ultimately, for an industry based on innovation and technological change, the financial crisis may challenge some businesses, but it will also revitalize the industry and enable new entrants with new technologies to thrive.

Endnotes

2 http://www.ism.pr/external/pubs/itw/2008/updates/03/index.htm
4 As acknowledged by the IMF, see: http://www.imf.org/external/pubs/ft/iff/2008/12/ba081201.htm
6 To understand how the US property crash spread globally, see Corden at: http://www.rementor.com/global recessions monitor/254732/the world credit crisis a simple introduction part 1, some timing and early hotéis, current date 25 November 2008.
time-statement _N.htm
8 http://www.nytimes.com/2009/10/05/business/worldbusiness/30Gdp.html?
12 The CEO of Telecom Italia has asserted that the cost of building NGN requires collaboration between operators and governments, and would be too risky for operators to undertake without State financing: http://www.budde.com.au/News_and_Views/2008/ October/Financial_crisis___agreements_in_the_European_telecoms market.aspx.
13 www.ca.1144097533.134764.html
Abstract: There are many legal issues which are relevant to fibreoptic cable systems. This article deals with just a few of them, but concentrates on the current industry concerns with insolvency. It argues that too much weight is put on the term “IRU” (indefeasible right of use) in the industry and that, really, to understand the effect of owning an IRU you must, always, look at the contract - there’s no magic to owning an “IRU” - you simply own a bundle of contractual rights.
A Brief History of Submarine Cable Structures
Before about 1995 almost all international submarine cables were built by consortia of incumbent operators rather than by private businesses set up for the purpose. The main reason for this was that, before deregulation, there was usually only one operator in each territory that was legally permitted to run a telecommunications system. This meant that in order to build a cable between two countries, the incumbent in each place had to be on-board because otherwise it would not be possible to land the cable! Also, because there was very little competition, there would have been very few customers for a private cable – again, meaning that only those who would use it, the incumbents, had an incentive to build international cables. These were usually financed by the (large) incumbents themselves, directly off their own balance sheets.

By the mid 1990s, though, the industry had been substantially liberalised in many countries. This meant that, for the first time, it was possible for private investors to build, and then sell capacity on, submarine cables. There was no longer any need to involve the incumbent because the new cable operation could itself apply for, and obtain, all the licences which were required. Moreover, the fact of competition meant that there would be many potential customers for the new cable – and this in turn meant that a new form of finance – project finance – became a possibility. Banks were prepared to lend on the strength of a business plan, and to take security not over existing assets but over the assets to be built.

Using this model, many different “carriers’ carriers” set up – in each case not aiming to use the capacity under construction themselves but instead aiming to sell it to existing operators. One of the pioneers of this model was the first Atlantic Crossing cable, AC-1, which was put into service in 1998 between the US and Europe.

The new privately financed cables dominated the industry for a number of years. Many new cables were built, each of which had vastly more capacity than the earlier ones because of huge technological advances. The industry followed Worldcom’s assertion that demand for capacity was doubling every 90 days and built accordingly. Unfortunately, though, this figure has now been shown to be false. In fact, demand was doubling roughly every year – still very fast, but nowhere near as quickly as the business models required. This meant that many of the new cables did not succeed, and many of the new private operators became insolvent (see later for a discussion of the legal effect of insolvency).

The industry entered a quieter period from about 2002-2005 as the glut of unused capacity, which still exists in some regions, prevented much new investment. In more recent times we have seen a renewed interest in building new systems, especially in the Asia-Pacific region and these have been both on the consortium and on the private cable models. A further interesting development has been pioneered by the Unity cable project, announced in February 2008, which is really a hybrid of the two models – a consortium of international companies builds a single system consisting of a number of potentially competing fibre-pairs, with individual members each having the ability to own and manage their own dedicated fibre-pair.

IRUs, Consortia and Private Cables
Capacity on international networks is usually sold as an “indefeasible right of use” or IRU. The problem is that there is very little understanding in the industry as to what the term actually means.

Under the old consortium model anybody who wanted to use capacity on a cable was required, basically, to join the consortium. In doing so they purchased an “indefeasible right of use” in it. This was something very much akin to a property right in that it usually included rights and obligations commonly associated with ownership - such as the right to a certain proportion of the total capacity of the cable for the duration of its life, or the obligation to contribute to operation & maintenance (O&M) in proportion to the actual costs incurred during any given year. The IRU owners were usually given a say in the governance of the cable, often by way of a vote at meetings of consortium members. Thus it made some sense to say that they had acquired “title” to a part of the network.

By contrast, customers of a privately-built cable are not owners. They are offered a bundle of rights and obligations which may well be called an “IRU” on the face of the document but which, in reality, can only be understood by reference to the terms of each particular contract. They often include many benefits which are not consistent with a normal view of the risks and benefits of ownership such as fixed O&M costs, guaranteed network quality or minimum repair times. Conversely, they might not include other things which would...
normally be associated with ownership such as an entitlement to automatic upgrades in capacity as the system is expanded, or a say in the management of the system. In this context it makes little sense to talk of the customer having acquired “title” – what has been purchased is a service, albeit one which is (usually) paid for largely up-front.

**Ultimate FASB**
The categorisation of an IRU can have significant consequences. Operators worldwide were very concerned when the US Financial Accounting Standards Board (or FASB) rules were changed in June 1999 so that IRUs were, from then, much more likely to be considered as operating leases (or services contracts) over the lives of the agreements. This went against the prior industry practice which had considered them effectively as asset sales.

The reason this was significant is that the revenue from operating leases (or services contracts) can only be “recognised” in the accounts over the lifetime of the contract irrespective of when that revenue is actually received. By contrast, the revenue from asset sales is recognised up-front. Even before the accounting scandals of Enron and WorldCom there were lesser securities fraud class action cases brought in the States by shareholders who claimed they had been defrauded by a company which wrongly overstated its revenues as a result of incorrect accounting for IRUs.

The current position is that, effectively, the key questions are: (1) does the IRU give rights to specific identified assets; and (2) does title in those assets transfer? If the answer to both is “yes” then the revenue can be recognised immediately. Otherwise the revenue must be recognised over the life of the IRU agreement³.

**The Position on an Insolvency**
The purchaser of an IRU, especially when buying from a newly created system owner with substantial sums of money up front, will be anxious to protect its position in the event of that owners insolvency. This risk seems even greater in light of the high-profile failure of several telecommunications operators over the past few years.

The fear, of course, is that the liquidator of the insolvent company, having received almost all of the benefit of the contract in the form of up-front payments, will chose to set-aside the IRU, leaving the purchaser as merely an unsecured creditor. This fear, though, is to a large extent misplaced. The position of the purchaser of an IRU in the event of the network’s insolvency is not, in fact, as bad as it might first seem.

The first point to note is that there are many forms of insolvency proceedings but that most of them do not allow existing contracts to be set-aside. They envisage, instead, that the insolvent business will be sold as an on-going concern. If that occurs then the IRU-holder’s position will be protected. The default position under the notorious “Chapter 11” proceedings in the USA, for example, is that existing agreement continue and the court’s consent is necessary before any can be set aside.

The second point is that even if the form of insolvency proceedings does allow contracts to be set-aside (and in the UK, for example, liquidation is the only form of insolvency which permits this), it seems likely that, in many cases, IRUs will not be set-aside because it will not be in the creditors’ interests to do so.

The primary duty of a liquidator is to maximise the funds available to repay creditors. This means that if it will generate more money to sell the network as a “going concern” rather than split it up and sell the assets then they will do so. The ongoing revenue stream of the operation & maintenance payments represents a guaranteed income from the asset, and there will almost always be spare capacity on the network which could be sold at prices to reflect the acquirer’s lack of debt. For this reason the position of the IRU owner is often, in practice, even if not in legal theory, protected.

Even if the particular cable on which they hold an IRU is to be switched off (usually because there is a cheaper, more modern, alternative on the route), the fact that the IRU owner will be prepared to pay an O&M fee will often be enough, in these circumstances to ensure that the parties can “do a deal”. This usually takes the form of offering the IRU owner capacity on another cable without any further upfront IRU fee in return for agreeing to pay the O&M fees in future.

For these reasons, then, in most cases the IRU owner does not, in fact, lose what it has paid for. The worst that seems likely to happen is that it might be compelled to switch to an alternative cable.

**Taking Security to Protect in the Event of an Insolvency**
To improve the chances of being protected still further, the purchaser of an IRU may try to take some sort of security over part (but not all) of the seller’s assets. The aim is to ensure that the IRU owner has priority over the unsecured creditors in the event of insolvency, and thus is better protected against such an eventuality.

Aside from the fact that any such security will, of course, in practice take second place to that held by the institutions which financed

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3 FASB Interpretation No. (“FIN”) 43, June 1999 Real Estate Sales, an Interpretation of FASB Statement No. 66.
the network, there is a significant difficulty with any such attempt meaning that, in most cases, taking security would give only a small additional comfort, if any. This is because, generally, it is not possible to take security over assets unless they are specifically identified and are physically sevorable from the other assets.

If we consider a typical submarine system consisting of a several fibres run between multiplexing and transmission equipment, with repeaters placed at regular intervals, this probably means that it is theoretically possible to identify and, perhaps, to sever (and thus take security over) one particular fibre-pair from the other fibre-pairs. However it is not possible, for example, to separate one “wavelength” from the others because it does not consist of physical assets, and because there are no such assets dedicated to it.

This means, then, that whereas it will never be possible to take security over some sorts of “IRUs” (wavelengths) this may be possible with other types (over entire fibre-pairs). But any such security will be useless unless the holder also has a right to use the transmission and multiplexing equipment as well as the repeaters – in respect of which, since they will be shared with the other fibres and cannot be separated, it will not be possible to take security. This means that even though the security-holder might, in theory, be able to take the fibre and sell it to recover its debt, in practice the price it will obtain will be extremely low, because it would be unable to sell with that fibre any right to access it, or to the transmission or amplification equipment connected to it! This will, of course, particularly be the case with submarine fibres where it is impossible to access one without also disturbing the others in the same trench, but it will also apply to land-based fibres.

For this reason there is usually no benefit in taking security, although this would not be entirely useless in circumstances where the person taking security had some alternative means of ensuring access to the shared infrastructure.

Conclusion
The main point to take away from this article is that the only way to fully understand the rights attaching to an IRU is to examine the contract, because the term has no settled, legal meaning.

This also means that the best way for a prospective IRU purchaser to protect themselves is to make provision for their concerns in the contract. On the question of insolvency, for example, rather than try to construct some intricate method of taking security, it might be simpler to look instead at reducing the risk by making payments on an annual basis instead of all up-front. Although this would not be consistent with the idea that an IRU constitutes some sort of ownership right, as we have seen that idea is wrong anyway, so the purchaser would not be losing anything by coming to this sort of arrangement.

Mike Conradi is a partner at specialist technology law firm Kemp Little LLP, based in London. Mike has a particular interest in submarine cables, and is the only private practice lawyer on the SubOptic legal standards working group.
First of all, and at the risk of redundancy – thank you again to all of those who are supporting this event. The industry interest in the form of ideas, media partnerships, sponsorship support, speaker identification, and general level of enthusiasm has been remarkable, and my team and I thank each of you who have been so responsive.
A bit about the conference agenda, as it has taken solid shape since my conversations with many of you during PTC:

We hope to have two very enticing keynote presentations: 1.) We’ve invited an editor of Wired Magazine to introduce the Demand session of the program (Wired being the publication that most often came up during our discussions on demand and “cool new stuff”). I’ll be able to confirm shortly which editor we’ll be bringing – keep an eye out for that news. 2.) We’re also bringing in a leading economist to discuss supply/demand and pricing alternatives in a commodity market. I’ve wondered whether the industry might have some opportunities during times of undersupply and over-demand (on certain routes, at least), and whether pricing options or alternatives could be considered that are market or route specific. We’ve asked the Professor to speak about ensuring long-term ROI from networks and considerations of commodity markets in additional to the Supply/Demand issue. I’m excited about both these sessions!

You all know my passion for the “Demand” side of the global network infrastructure. This year we’ll bring you a combination of consumer and enterprise capacity use insights. Among these speakers is a representative from Reebok – a company that uses virtual reality site “Second Life” to launch new product lines and otherwise keep the consumer aware of an excited about the brand. Reebok brand managers are amazingly well informed on how the average consumer is using the web, its interactive capability, and how consumers manage virtual reality, video streaming, and other high bandwidth applications.

We’ll also provide some enterprise focus to the demand segment of the conference with companies like Saxo Capital Markets – a firm in which even the CEO is constantly aware of their millisecond network delays. Saxo has a financial trading platform, and their business success is highly reliant on the network and its capability. I’ve been amazed by their network tracking methods and awareness, and I’m confident that their insight into their own network requirements will provide significant value to the demand conversation and bring insight into how banks and other firms look at the availability, viability and financial impact of the telecom network.

A couple additional notes on the demand segment: We’ve added a regional markets session where telecom service provider representatives will impart their own views into broadband take-up and key drivers in their respective regions. We’ve also brought in a “rich media” and content delivery session with firms such as Limelight, i-POP and MTV among key presenting companies to talk about streaming music/video, cloud computing, and other rich media applications. Hopefully this session will provide additional new ideas on networks, network design and geographical considerations for network capacity flow and design.

As we move into the technology (supply) side of the agenda, we’ll have sessions on regional connectivity solutions, wireless technology as an alternative to backhaul, satellite as an extension to fiber-based networks, and a discussion on universal telecom access. We’ll invite our carrier experts to talk about network optimization and its impact on capacity purchasing and planning requirements. Then we’ll invite carrier representatives and infrastructure suppliers to discuss network design, based largely on what we’ve heard from the demand experts earlier in the conference. This session will be an open discussion on network design and network capability, and
will consider the possibility that more can be done with the existing and future networks to respond to consumer, enterprise and service provider requirements.

Now, I know I’m a bit effusive when it comes to promoting my own events, but I’ve got to tell you a little bit about the marketing, branding and promotional capability we’ve generated with this conference.

Our marketing campaign has been very strong already, with 100,000 people in January and 425,000 in February made aware of the event via a combination of electronic direct mail, advertisements, editorials and logo placement on targeted websites. We’ve got event listings (this is a short event write-up, versus just a button) in online publications reaching over 400,000 visitors, and in newsletters reaching over 175,000 readers in the month of March alone!

Also in March we have a full-page advertisement in Telecom Asia (45,000+ telecom specific readership), electronic ads reaching 175,000 subscribers, and 3 separate electronic direct mailings that will reach 25,000 people with each mailing. We also have banner ads reaching 430,000 web visitors. And you’re reading this article thanks to the wonderful support we’ve received from Wayne and his team at SubTel Forum. If you’re not on distribution for any of our media partner publications please log on to the Subsea Communications website at www.subseacommunications.com and click on the respective link – our media partners will be happy to add you to their distribution lists.

The upcoming campaign has a strong focus in Asia, but through our association with Fierce Publishing we have dramatically increased the number of readers/visitors each month in Europe and the US. We’re particularly thrilled with the very global nature of the campaigns. We have a number of media firms prepared to interview our major event sponsors as well, so I’m really happy with the marketing push that we’re offering. If you’re considering sponsoring the Subsea Communications conference, please give us a call and we’ll be happy to tailor a package to your specific needs, and ensure the marketing/branding campaigns get to work for you and your firm.

Hopefully you can see that the Subsea Communications Conference offers in-depth illumination on topics varied and vital to the fiber optic cable fraternity. A flood of knowledge will provide sharp focus on interoperability - how can or should satellite and wireless technologies support the subsea infrastructure; consumer and enterprise demand drivers – how users may affect future development plans and network design; network optimization’s cost impact and avoiding a race to the bottom with commodity pricing.

Along with these core industry issues, the Subsea Communications Conference will generate information affecting the current business environment, ideas on pricing in relationship to supply and demand, and ensuring long term ROI from the networks.

Additionally, several workshops will offer key industry segments an opportunity to participate in the discussion and help shape the future. Specific workshop sessions will focus on networks physical security, opportunities servicing the offshore oil & gas industries, new network builds in the pipeline and managing pricing for greater ROI.

This year’s event will be held at the luxurious Venetian Resort and Casino in Macau, which is located just a short ferry ride from Hong Kong Island. My team and I look forward to seeing you all there!

Anne LeBoutillier

Anne LeBoutillier is a telecommunications professional with extensive events and media experience. Anne is a regular speaker and Master of Ceremonies at regional and global conferences and events. In addition to her frequent public speaking roles, Anne has been featured on CNBC and BBC providing commentary and analysis on the regional telecommunications market. Anne also co-hosted a weekly US-based telecom radio program with Scott Draughon (MyTechnologyLawyer.com).

Anne is currently consulting to Questex Media where she is directing the launch of the Hotel Investment and SubSea Communications events. Ms. LeBoutillier received a Global MBA from Thunderbird, The Graduate School of International Management and holds a bachelors degree in Political Science and International Economics from the University of Illinois.
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The U.S. is in the grip of what will likely be the longest recession since World War II. Two post-war recessions are now tied for the record; the recessions of 1973-75 and 1981-82 both lasted 16 months. With that record likely to fall it is instructive to compare the current recession to two lengthier history-making economic events, the Great Depression and Japan's Lost Decade. The Great Depression lasted in the U.S. a total of 43 months from August 1929 until March 1933. By the time it was over real GDP had declined by 30 percent, approximately eight times deeper than the recession of 1957-58. By contrast Japan's Lost Decade describes a condition more than an event. For the decade of the 1990's Japan's previously impressive economic machine sputtered to a crawl, and stayed there for the better part of ten years. It was really a period of two recessions; one from 1991 to 1993 and a second deeper one from 1997 through 1999, separated by a temporary and tepid recovery from 1994 through 1996.

The current U.S. recession has some commonalities with both the Great Depression and Japan's Lost Decade. All three events were preceded with asset price inflation and a cavalier attitude about the downside risks associated with rapidly appreciating assets. Prior to the Great Depression a highly speculative business climate in the Roaring Twenties preceded the stock market crash of 1929. Japan had its own speculative bubble. By the late 1980's the property value of the Imperial Palace in Tokyo was estimated to be worth more than the entire state of California. For all three events, the eventual popping of a speculative asset bubble resulted in extreme distress in financial markets. The financial market distress then reinforced a severe contraction in broadly measured economic activity.

Today's events and the earlier episodes can be analyzed according to the degree of the symptoms, the nature of the economies, and the efficacy of the policy response. In terms of symptoms, the current severe recession has more in common with the Lost Decade than the Great Depression. The U.S. recession has so far been more lengthy than deep. Unemployment is now rising but there are no credible expectations of a return to the near 20 percent estimated peak unemployment rate of 1938. Loan defaults and foreclosures are rising, but again nowhere near the scale of the Great Depression. In terms of the nature of the economies, the current crisis is more similar to the Lost Decade. We have a much more diverse economy now than we did in the 1930's, our banking system is much more stable and more flexible, and advances in the understanding of economic policy and of the levers used to manage the economy have given us a much more effective toolkit than we had in the 1930's.

It is in the area of policy response that we see the key differences between the current severe recession and both the Great Depression and the Lost Decade. In the case of the Great Depression, the policy response ranged from neglect to harmful. Ill conceived government policy both prior to and after the first symptoms of the Great Depression drove the economy even deeper into the abyss. In the case of Japan in the 1990's, monetary policy was not necessarily harmful, it was just lacking.

In the current crises we have already seen active, creative and beneficial fiscal and monetary policy responses from Congress, the Federal Reserve, the Treasury, and the FDIC. The first round of fiscal stimulus undertaken last summer proved to be insufficient. The tax rebates proved to have only a limited multiplier effect on the economy. The next round will be much larger and have a longer lasting effect. We also expect to see more policy announcements in the weeks ahead that will accelerate the painfully slow thaw in financial markets and allow the real economy to regain some modest momentum in the second half of 2009.
Given the well-known long lead times associated with submarine cable development, it’s hard to believe that just a few years ago, industry participants were almost unanimously decrying a glut of overcapacity on subsea networks, industry conferences were sparsely attended and cable-laying ships were being quietly retired.

Despite that recent history and despite the current credit crunch, uncertainty of investment and even the failure of major institutions, 2008 was a surprising year of increased building for the subsea cable industry. Even while the general economy tightens its belt, telecom operators (and some service providers such as Google) are intent on meeting the demands for submarine cable systems engendered in large part by the explosion of web-based video, voice and data and multimedia-centric websites.

Innovations like Facebook, Twitter and Flickr – all just a few years old – have garnered a worldwide audience and placed a high premium on instant accessibility to photos, music and video, as a new generation of ‘i-reporters’ documents its surroundings, personal interactions, current events and even daily lives through these mechanisms, and through 10 megapixel cameras. All of those applications and photographs, combined with the inexorable increase in web traffic, have generated astonishing demand for intercontinental data connectivity. As the Internet becomes less US-centric, there is a corresponding increase in demand for connectivity throughout the rest of the world.
As a result, many submarine cable projects are currently in full-swing and the focus has now shifted to regional systems in emerging markets and areas that are only now getting significant Internet penetration (principally Africa and parts of Asia). For example, on the east coast of Africa, construction has started on the SEACOM cable that will link Africa with India and Europe with the cable expected to go ‘live’ in June of 2009. Project EASSy is in environmental impact assessment mode and projects to be active in February of 2010. Africa, and to a lesser extent Asia, is witness to a number of announced competing projects – with participants and prospective users all warily eyeing each other in recognition of the simple fact that not all of these projects will indeed ‘hit the water.’

Development of a submarine cable system shares a lot in common with infrastructure development generally, but the process entails a number of distinguishing characteristics that have legal ramifications that this article will briefly survey and comment upon. For instance, the geographic scope of a project stretches across thousands of miles, unlike a powerplant or bridge. Sponsors and lenders must be aware of the myriad of legal schemes (some of which may be conflicting) regarding the acquisition of permits and landing rights, the taxing of revenues and environmental regulatory schemes. The overlapping of legal jurisdictions applicable to the cable system is coupled with the high degree of technical specificity and expertise required to build a proper system, starting with the demand surveys and desktop routings to the actual deep-sea cable laying. Furthermore, sponsors must be cognizant of the management of the cable system (including damage due to earthquakes, ships’ anchors or inquisitive sharks), the establishment of a network operations center, negotiation of backhaul and interconnection rights, as well as agreeing upon the proper channels for marketing and selling of capacity. So, it is immediately apparent that development of a submarine cable system requires an unusually wide panoply of differing skills and specialities.

This necessity for a variegated ‘skill-set’ in the creation and operation of a submarine fiber-optic network leads to two primary consequences. First, it obliges any successful sponsor to be capable of providing (or at least arranging for) disparate inputs (technical, operational, marine, environmental and cross-jurisdictional legal expertise). An obvious solution to this challenge is to introduce a greater number of parties to spread the risk and who can bring their respective proficiencies to the table. However, the need for multiple players inevitably leads to increased costs and complexity. Many commentators have noted that certain projects, (Project EASSy to name one), experienced a long gestation period partly for this very reason. Second, there is no one blueprint for how to proceed in the industry. This is true in regards to financing (equity, debt, developmental financial institutions, private equity), but more so in how the sponsor proceeds to arrange, structure and carry through the project to completion and eventual provision of the service to the end-user. Each project seems unique and is structured differently. This is a novel aspect of the submarine cable industry – as billions have already been spent and yet, fascinatingly, there is still a constant evolution of approaches.

Most sponsors and operators have reacted to the first challenge, as noted above, by adopting the consortium approach. The consortium model originally developed because a telecom operator would rarely have sufficient traffic to warrant construction of its own submarine cable. Moreover, that approach enabled risks and costs to be shared among a number of operators and permitted access to a range of expertise. For decades, the consortium model dominated the industry, in which each participating carrier (historically, a government-owned monopoly operator) would invest an equity share, as co-owner, in exchange for a proportional allocation of bandwidth capacity on the new cable. These equity contributions paid for the construction costs, and the consortium members committed to the future operating and maintenance costs. Today, in most instances, any consortium model will likely be dominated by non-governmental sponsors. Such consortium members can sell capacity to third-party buyers or use it for their member networks.

In line with the second challenge above, the consortium model has undergone many permutations in recent years and each consortium of sponsors will face differing sets of issues depending on the specifics of the submarine cable project. Due diligence has also taken on a more prominent role as undersea cable projects have shifted to the developing world, causing many sponsors to exert more time and effort in order to understand unfamiliar, and often nascent and incomplete, legal and regulatory schemes. Environmental regulations and permitting rights are important in any submarine cable project, but, especially in the developing world, a sponsor must make sure it has staff or advisors that are well-equipped to understand the intricacies of these regulatory frameworks. The issues are often further complicated given the interweaving of multiple jurisdictions, especially in current African subsea projects, where as many as ten developing countries could be implicated at a time. Multiple jurisdictions means sponsors must maintain counsel in each affected jurisdiction and this leads to burgeoning costs, a premium on executive coordination time and inevitable delays for the project.

Local tax schemes will have a strong bearing upon what sort of entity sponsors decide to form, since sponsors will naturally try to minimize taxes whenever possible, customarily by having the principal cable owner sited in a tax haven. Many developing nations insist, however, that cable landing rights and other relevant licenses be granted to only domiciliaries of that nation – and consequently the requirements for local participants and owners lead to a complicated web of multiple corporate entities. Additionally, the very nature of these projects means that from a tax perspective, they are capable of earning revenues in many places. Many sponsors will have the different aspects of the submarine cable system (marketing, contracts, maintenance) conducted by separate subsidiaries in distinct locales. It is thus crucial to understand the tax burdens associated with the corporate structure and also ensure transparency so that any potential lenders will be able to monitor cashflows and dividend streams. The shift to developing countries also has an associated impact on drafting the governing contract. Along with the problems that accompany any contract
(including which law shall govern and remedies in the case of breach), sponsors must pay particular attention to dispute resolution procedures and query whether it is realistic to achieve the judicial or arbitral relief they require in the jurisdiction selected. In short, developing cable systems in the Third World means dealing with inchoate legal systems and judicial and licensing systems that, to put it charitably, may not always be predictable. Prudent sponsors will often seek to balance nationalistic desires against the need for governing law and dispute resolution procedures that are familiar and established.

Newer consortia tend not to follow the path of large operators with lavish resources. In the past, a strong sponsor with high technical proficiency, a strong debt/equity position and numerous staff at its disposal could conduct its own internal market-demand analysis and assume some of the role of general contractor during the construction of the cable system. However, as we move into an age of smaller regional projects in the emerging markets with a multitude of parties who may not have this large staff and expertise, the solution becomes a turn-key construction contract. This is a somewhat more expensive, but perhaps unavoidable, solution. Moreover, while the major fiber-optic system vendors are reputable and proficient at their tasks, this approach puts a premium on the sponsor being responsible for overseeing the vendor and making sure it gets the utmost out of the team employed to the end that all work proceeds in the manner that the sponsor sees fit. Often, sponsors will engage separate consultants to undertake this supervising role, and lenders to such a project will invariably engage their own engineers and other advisors to vet everything from the marketing studies to the projected ‘ready for service’ date.

In any consortium, whether it be in the developing or developed markets, it is critical for the sponsors to craft a cohesive and well-structured contract to govern the rights amongst themselves. Given the amounts of money involved, it is sometimes surprising to see that parties have proposed a contract that is a product of cobbling together disparate pieces of a cable maintenance contract, a shareholders’ agreement and a capacity sale document. Important areas to address include when and on what terms equity contributions are required, the responsibilities for cost-overruns, when the project can be abandoned, when upgrades are necessitated and who is entitled to decide on them, how maintenance responsibility is apportioned and how marketing for the selling of capacity will be conducted. All of these and other elements need to be considered in conjunction with each other. As in any negotiation, there will be sponsors with higher degrees of bargaining power and the ultimate deal reached will reflect these nuances. Differences in creditworthiness also become relevant when lenders enter the stage to provide some type of financing to complement the equity. Lenders to a project will be concerned with how they will hold each sponsor liable (jointly and severally liable for the full amount or merely severally liable for each’s share of the debt) and how to deal with sponsors in the consortium with lesser creditworthiness. Lenders will also need to decide what entity they will lend to – directly to the sponsors to fund their respective equity contributions, or to some newly created joint venture of sponsors whose creditworthiness reflects the sponsors’ combined strengths. Ideally, from the lenders’ viewpoint, the loan could be made directly to the project company. This approach has the benefit of lending to where the assets and cashflow are located and the ability to obtain liens on or pledges of the assets. Sponsors will typically also be asked to give a pledge of their shares in the project company in these instances to ensure appropriate security and remedies to the lenders.

So, there is optimism – albeit somewhat tempered by these bleak economic times – for submarine cable projects, both for systems currently being constructed and for future build-outs and upgrades. There are various ways for sponsors to structure the ultimate project even within the consortium model, but one must keep in mind that ‘no one size fits all.’ No subsea cable project is a foregone conclusion of success and a sponsor must be cautious and not lead to overzealous action by market allure. Especially in the context of developing markets, sponsors must analyze and conduct their due diligence, company formation, contract drafting, construction and operations with explicit focus on legal frameworks, the expertise their team provides and market realities.

Glenn S. Gerstell

Glenn S. Gerstell is the managing partner of the Washington, DC office of Milbank, Tweed, Hadley & McCloy LLP, and heads the firm’s global communications practice. He has been especially active in the submarine cable sector, having advised lenders, vendors and system operators in project financings, acquisitions and large capacity commercial arrangements. Mr. Gerstell is the general editor of Telecoms Project Documentation, published by Euromoney. A frequent speaker at legal and business conferences, he is also the author of numerous articles on legal topics. He served as Adjunct Professor of Law for several years at Georgetown University in Washington, DC. He is a graduate of Columbia University School of Law (JD, 1976, Harlan Fiske Stone scholar) and of New York University, University Heights College of Arts and Science (BA cum laude, 1974).

The author gratefully acknowledges the assistance of Gavin McKeon, an associate at Milbank, Tweed, Hadley & McCloy, in the preparation of this article.
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The Energy Telecommunication and Electrical Association is making plans for their annual ENTELEC Conference & Expo in Houston. This year’s event will take place April 29 – May 1 at the George R. Brown Convention Center. Despite the struggling economy, ENTELEC is pleased to continue to see increases in both exhibiting companies and attendance. The conference currently has over 30 technical training sessions scheduled for this year and they are looking forward to a quality educational program for industry attendees.
Educational highlights

The 2009 Conference & Expo event will feature educational sessions in SCADA, Power and Telecommunications technologies. The conference tracks have been developed to help attendees determine which sessions will be the most beneficial to their field. “We wanted our attendees to easily differentiate between the session topics this year,” states Blaine Siske, ENTELEC Executive Director. “With more training seminars than ever before, our goal is to provide attendees with a conference schedule that pertains to their interest and industry.

This year’s technical presentations includes topics such as: “Corrosion Failure or Corrosion Mitigation?Enabling improved asset integrity,” “Expanding the Boundaries of Communications Using ip-based Dispatch,” “The Impact of Antennas on SCADA Network Security and Reliability,” “SCADA Security Update 2009,” and “Implementing Carrier-grade Ethernet Access in Utility Networks.” Presentations will be given by speakers from companies such as: Honeywell, Epco, Inc., I3P and the United States Military Academy, Cisco Systems, Freewave Technology, and many more.

The Friday Training Sessions have been developed to offer more educational and networking opportunities for attendees. The fourth annual SCADA and IT Communications Roundtables will take place on Friday morning. The roundtable discussions allow attendees the opportunity to converse with industry colleagues on topics related to their fields. The SCADA and IT Communications Roundtable occurs from 9:00am – 11:00 am.

In addition to the roundtable discussions, several training sessions will also take place on Friday morning. Berkana Resources will follow-up their 2006, 2007 and 2008 discussions with “SCADA and Security Issues; Beyond the Hacker Threat”. A widely attended session in previous years, this year’s presentation focuses on SCADA security issues. “Grounding Practices for Communication Sites” presented by Transtector Systems is a course designed for the communications professional whose job responsibilities include working with AC and DC power systems located at but not limited to Central Office, MTSO, Cell and GPS sites.

Additional Friday training topics include: “Learning the Way to Be Secure. Easy Steps to Take to Secure Your Network Infrastructure” by Dominic Iadonisi, RuggedCom Inc. Implementing a Defense in Depth Control System Ethernet Network Architecture presented by Todd Carscadden, P. Eng., Planetetworks Consulting Corporation, and “Expanding Dispatch Capability and Reducing Costs Using RolP” by Robin Grier, Catalyst Communications Technologies. All Friday sessions take place at the George R. Brown Convention Center as well.

Exhibit Hall

Over 200 manufactures, dealers, and distributors will showcase their products and services at this year’s event. ENTELEC has continued to see a steady rise in new exhibiting companies to the show. 2009 new exhibitors include: Sabre Industries, Innovative Control Solutions, ACR Systems, Champion Technology Services and many more. Continued support comes from long-time exhibitors such as Emerson Process Management, Telvent, Broadpoint, Motorola and GE MDS, Inc.

Networking Opportunities

While in the classroom and walking the exhibit hall will keep most attendee’s schedules packed, the ENTELEC Conference & Expo also offers many opportunities for attendees and exhibitors to socialize.

On Tuesday, April 28, attendees can network with fellow industry professionals at the opening Welcome Reception, being held at the Hilton Americas Hotel. The theme of the evening is “Cinco De Mayo” and the free event, which includes cocktails and light hors d’oeuvres, is designed to provide all show-goers with a relaxed way to share their ideas and insights with one another.

Continental breakfast and networking lunches will be held on Wednesday and Thursday at the George R. Brown Convention Center. Wednesday’s continental breakfast, sponsored by Rockwell Automation, will allow attendees to mingle prior to the Opening Keynote address by Col. Mike Mullane. On Thursday morning, Keller and Heckman host the attendee breakfast prior to the annual Washington Roundtable. Both Continental breakfasts begin at 8:00am in Ballroom a.

A networking reception will be held from 4:00pm – 5:00pm in the Exhibit Hall for exhibitors and attendees. The free event features cocktails and appetizers for all participants in the hall. It’s a great opportunity for guests to discuss the day’s events and topics of upcoming sessions as well as areas of professional interest.

With all these offerings, the show will provide attendees with even more compelling reasons to return to Houston for the 81st Annual Conference & Expo. Professionals interested in more Conference & Expo information, or membership information for ENTELEC can visit their website at www.entelec.org

Return of the ENTELEC Fall Seminar Series

ENTELEC is pleased to announce the return of the ENTELEC Fall Seminar Series. This year’s event will be held October 21-22, 2009 at the Inverness Hotel in Denver, Colorado. The 2009 Fall Seminar theme is “The Integrated Field of the Future” and will include technical presentations focusing specifically on this topic and include related aspects such as security, SCADA and controls, mobility and vehicle networking, as well as data gathering and transmission technologies surrounding the new digital field of the future. If you’d like to be a speaker, check out our website for more information on the topic and the Call for Papers.

For more information on the ENTELEC Association or the 2009 Conference & Expo please visit their website at www.entelec.org
CABLE ROUTE SURVEYS ARE NOT MARINE SCIENTIFIC RESEARCH

CABLE ROUTE SURVEYS ARE INTERNATIONALLY LAWFUL USES OF THE SEA RELATED TO THE FREEDOMS ASSOCIATED WITH SUBMARINE CABLES. SO MARINE SCIENTIFIC RESEARCH LEGAL REGIMES DO NOT APPLY.

Douglas R. Burnett
Frequently questions about the legal status of cable route surveys under international law arise and whether marine scientific research requirements apply to them. Some times coastal States are demanding permits for cable route surveys, even those that do not enter territorial seas. At other times survey companies believe cable route surveys are marine scientific research and convince cable owners to engage in unnecessary permit activities that add to the cost of a project. The root of the problems arises from an erroneous assumption that a cable route survey is marine scientific research. Since coastal States have the right to consent to any marine scientific research conducted within their Exclusive Economic Zone (“EEZ”) or that affect natural resources on their continental shelf,1 this assumption can have immediate and expensive consequences.

The mistake is understandable given the general popular understanding of the generic marine scientific research classification, and the fact that the means used to carry out a cable route survey are also employed in marine scientific research.

But a review of the United Nations Law of the Sea Convention (“UNCLOS”)2 shows that distinctions are drawn between marine scientific research, hydrographic surveys, and cable route surveys conducted within the various maritime zones established in the convention, even though these activities may use similar means to accomplish their different objectives. The purpose of this article is to educate government officials, survey operators, cable owners, and cable installation and maintenance companies about the importance of these differences under UNCLOS.

A clarification. The cable route survey outside of territorial seas addressed in this article is used for international telecommunication cables. Other types of cables may have other considerations. These international telecommunication cables are not connected to artificial islands, installations, and structures in the EEZ. For if they are, coastal State consent is required. Nor are such cables used for the exploration or exploitation of natural resources such as oil, gas, and minerals or involve explosives, drilling or the introduction of harmful substances into the marine environment. For if these activities are involved, coastal State consent is required.

Before examining UNCLOS, it is important at the onset to consider basic definitions of the marine scientific research, hydrographic surveys, and cable route surveys.

A. Marine Scientific research, hydrographic surveys and cable route surveys

Defining survey activities is important in evaluating UNCLOS rights and obligations.

*Marine scientific research* (“MSR”) is the general term most often used to describe those activities undertaken in the ocean and coastal waters to expand scientific knowledge of the marine environment and its processes.3 MSR includes oceanography, marine biology, marine chemistry, scientific ocean drilling and coring, geological and geophysical surveying as well as other activities, including a scientific purpose.4 It is distinguished from a hydrographic survey or a cable route survey.

The generally accepted modern international interpretation of *hydrographic survey* is the obtaining of information for the making of navigational charts and safety of navigation. It includes determination of one or more of several classes of data in coastal and relatively shallow areas (depth of water, configuration and nature of natural bottom, direction and force of currents, heights and times of tides and waters stages, and hazards for navigation for production of nautical charts and similar products to support safety of navigation, such as sailing directions, light lists, and tide manuals.5 A cable route survey has a different purpose compared to MSR and hydrographic surveys.

The Submarine Cable Improvement Group defines a cable route survey:

*This is the marine survey operation to obtain all the necessary information to design and engineer a cost effective and reliable cable system. Following receipt of the ‘cable route survey’ report the installation cable route is optimized based on data obtained on the seabed bathymetry (depth contours etc.), sub-bottom profiling together with other useful information such as side scan sonar, currents, temperatures and prevailing weather conditions. The survey will determine if cable burial is required or indeed is possible.*6

As the above descriptions confirm, a cable route survey is not MSR nor is it a hydrographic survey. The purpose and use of the cable route survey incident to cable laying is distinct from those of MSR (i.e. natural resources, marine pollution, general science) or hydrographic surveys (i.e cartography).

While the means of data collection used in a cable route survey is often the same as, or similar to, that used in MSR or a hydrographic survey, information from a cable route survey is intended for use by the cable owner. UNCLOS treats these distinct activities differently.

For example, while under UNCLOS Article 40 [Research and survey activities], a survey vessel

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1 Art. 246 [Marine scientific research in the exclusive economic zone and on the continental shelf]
2 The United Nations Convention on the Law of the Sea (Dec. 1982) governs the activities addressed in this article. UNCLOS is regarded as the constitution of the oceans, it addresses in a comprehensive manner activities involving the sea include navigation, laying and maintenance of cables, hydrographic surveys, and marine scientific research and the relationships between these activities in the in the territorial sea, the EEZ, the continental shelf, and the high seas. Over 157 nations and the European Union are parties to UNCLOS.
6 http://www.scig.net
may not conduct MSR or a hydrographic survey in an international strait through territorial seas. But this must be construed in light of Article 39.1(c) [Duties of ships and aircraft during transit passage] which permits activities incident to the normal modes of continuous and expeditious transit such as sonic depth soundings and sonar for navigation and plotting ship position by radar, GPS, or visual means.7 In both cases similar means may be in use, but the use determines which means activity can take place and which requires coastal State consent.

With respect to Article 40, it must be emphasized that where the straits are wide so that the vessel can navigate without entering the territorial seas of bordering states, then there is no restriction on survey activities related to MSR and hydrographic surveys if the transit is performed on the high seas or on hydrographic surveys if performed in the EEZ. This is because under Article 36 [High seas routes or routes through exclusive economic zones through straits used for international navigation], the UNCLOS provisions of the high seas and the EEZ govern the strait outside of territorial seas. “As explained by the representative of the United Kingdom during the Convention negotiations, in ‘broad straits' more than 24 miles wide ‘it was unnecessary to provide a special right of transit passage since the ships and aircraft could navigate on the high seas.”8 This point is again made clear in Article 35(b) [Scope of this Part] “Nothing in the Part affects: the legal status of the waters beyond the territorial seas of States bordering straits as exclusive economic zones or high seas.” Unlike MSR and hydrographic surveys, cable route surveys are not specifically named in UNCLOS. But they do not need to be. This activity is part of the freedom to lay and maintain cables expressly recognized under the Convention.

B. Submarine cables and associated operations

Cable route surveys are part of the process of laying submarine cables. Accordingly, cable route surveys derive their rights and obligations from the submarine cable provisions. Submarine cables are addressed in ten articles of UNCLOS, governing activities related to cables in the territorial sea, the EEZ, the continental shelf and the high seas. UNCLOS articles are 58, 78, and 799, set out and discussed below:

Article 78. Legal status of the superjacent waters and air-space and the rights and freedoms of other States

1. The rights of the coastal state over the continental shelf do not affect the legal status of the superjacent waters or of the airspace above those waters.

2. The legal exercise of the rights of the coastal State over the continental shelf must not infringe or result in any unjustifiable interference with navigation and other rights and freedoms of other States as provided for in this Convention.

Paragraph 2 reiterates a consistent UNCLOS principle that coastal States must recognize the rights and freedoms of other States that are provided in the Convention. It emphasizes that, in the exercise of its rights over the continental shelf, a coastal State must not infringe or cause unjustifiable interference with navigation and other rights and freedoms of other States as provided in Convention, and “[t]he categoric character of this obligation is emphasized by the use of the words ‘must not.’”10 The reference to “other rights and freedoms of other States” includes rights regarding submarine cables.11 The rights and freedoms of submarine cables are set out in Article 79.

Article 79. Submarine Cables on the Continental Shelf

1. All states are entitled to lay submarine cables and pipelines on the continental shelf, in accordance with the provisions of this article.

2. Subject to its rights to take reasonable measures for the exploration of the continental shelf, the exploitation of its natural resources and the prevention, resolution and control of pollution from pipelines, the coastal State may not impede the laying or maintenance of such cables or pipelines.

3. The delineation of the course for the laying of such pipelines on the continental shelf is subject to the consent of the coastal State.

4. Nothing in this part affects the right of the coastal State to establish conditions for cables or pipelines entering its territory or territorial sea, or its jurisdiction over cables and pipelines constructed or used in connection with the exploration of its resources or the operations of artificial island, installations and structures under its jurisdiction.

5. When laying submarine cables or pipelines, States shall have due regard to cables or pipelines already in position. In particular, possibilities of repairing existing cables or pipelines shall not be prejudiced.

The ordinary meaning of Article 79 is that repair or laying permit requirements on telecommunications cables by a coastal State outside of its territorial seas as described above are not authorized under UNCLOS.12 Paragraph 1 affirms, in a form

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7 Nordquist, supra, at 352 [40.9(c)]
8 Nordquist, supra, at 316 [36.2]
11 Id. at 907 [78.8(d)]
12 “A treaty shall be interpreted in good faith in accordance with the ordinary
Paragraph 5 underscores the special status of international cables with its express provision that the “possibilities of repairing existing cables . . . shall not be prejudiced.” This provision is specifically cross-referenced in Article 112.2 [Right to lay submarine cables and pipelines] that applies this limitation on all States to all cables on the high seas.

**Article 58. Rights and duties of other States in the exclusive economic zone.**

1. In the exclusive economic zone all States, whether coastal or land-locked, enjoy, subject to the relevant provisions of this convention, the freedoms referred to in article 87 of navigation and overflight and of the laying of submarine cables and pipelines, and other internationally lawful uses of the sea related to these freedoms, such as those associated with the operation of ships, aircraft and submarine cables and pipelines, and compatible with the other provisions of this Convention.

2. Articles 88 to 115 and other pertinent rules of international law apply to the exclusive economic zone in so far as they are not incompatible with this Part.

3. In exercising their rights and performing their duties under this Convention in the exclusive economic zone, States shall have due regard to the rights and duties of the coastal State and shall comply with the laws and regulations adopted by the coastal State in accordance with the provisions of this Convention and other rules of international law in so far as they are not incompatible with this Part.

Paragraph 1 is explicit that the freedoms listed in Article 87 including navigation, which includes the stationing and movement of cable repair ships,22 and the laying of cables including the internationally lawful uses of the sea related to these freedoms, such as those associated with the laying of pipelines, submarine cables and other internationally lawful uses of the sea related to these freedoms, such as those associated with

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18. Article 79.3 reflects the careful compromise of the parties which were involved in its negotiation. China proposed that “the delimitation of the course for laying cables and pipelines in the seabed of the economic zone is subject to the consent of the coastal State.” See Report of the Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction, Vol. V, General Assembly, Official Records, Twenty-eighth Session, Supplement No. 2/1, p. 51. A subsequent proposal by Denmark was adopted, however, which limited the coastal State’s power to pipelines only, in recognition of the fact that a ruptured pipeline could result in pollution while a ruptured cable has no such result. See Nordquist, supra, at 194 (1997, 3:8)Dupuy-Vignes, A Handbook on the Law of the Sea, Vol. 2 (1991), Chapter 18 at 855, n. 37 (This chapter was written by L. Dolegny and D. Nelson of Grenada, the Chairman of the committee which oversaw drafting of the submarine cable provisions in UNCLOS).

19. The official position of the United Nations on this issue, set out by its Legal Affairs Branch of the Division of Ocean Affairs and the Law of the Sea, is instructive. It says, inter alia, that the laying of submarine cables “shall not prejudice the stationing and movement of lay cables . . . to an area beyond the outer limits of the 12 nm territorial sea, the coastal State may not (and should not) impede the laying or maintenance of cables even though the delimitation of the course for the laying of pipelines ‘not cables’ on the continental shelf is subject to assessment.” See response to Question 87. Frequently Asked Questions, at U.N. Website accessed at http://www.un.org/hyPrl/treaties/lawofthesea/frequentlyaskedquestions.html.

20. Id.

21. See, supra, n. 10 and 11.

operation . . . of submarine cables,” are recognized in the EEZ. Cable route surveys are lawful and necessary operations associated with the operation of cables. In fact, without a cable route survey, the cable cannot be prudently laid.

Paragraph 2 explicitly applies to Articles 112 through 115, which deal comprehensively with cables in the EEZ. The EEZ concept “recognizes the interest of the coastal State in the resources of the zone and authorizes it to assert jurisdiction over resource-related activities therein.” At the same time, all States continue to enjoy in the zone traditional high seas freedoms of navigation and overflight and the laying of submarine cables and pipelines and other internationally lawful uses of the sea related to these freedoms. Again, cable route surveys are a lawful use related to the freedom to lay submarine cables.

Paragraph 3 limits the ability of the coastal State to enforce laws and regulations in the EEZ to those measures that are not incompatible with Articles 58.1 and 58.2 as described above. “In simple terms, the rights as to resources belong to the coastal State and, in so far as such rights are not infringed, all other States enjoy the freedoms of navigation and communication.” A cable route survey does not infringe upon the coastal State’s rights to its resources.

The issue of compatibility is in essence a competition of those activities in the EEZ that are free on the high seas (i.e., cables) and those for which the coastal State enjoys sovereign rights (i.e., fishing). A reasonable interpretation is that priority should be given to the activity explicitly recognized as free, such as cables over an activity not explicitly recognized. This is consistent with the objects of UNCLOS to “facilitate international communication” and that a coastal State may not exceed its powers in the EEZ.

**Conclusion**

The freedom to navigate and lay cables and the operations associated with ships exercising these freedoms are expressly provided for on the high seas, on the continental shelf, and in the EEZ. These freedoms include cable route surveys incident to a cable lay in these zones. And while there is no permit requirement or legal requirement to notify the coastal State before conducting a cable route survey, it is recommended that liaison take place with coastal States and naval forces in the area to coordinate the route survey operation with other shipping and naval activities in the area. This will avoid safety of navigation issues and reduce risks that may be present in a given area of the ocean.

Finally, cable owners and survey companies must exercise great care in how they describe their activities when interacting with coastal State authorities. Simply filling out permit forms applicable for natural resource or MSR surveys without distinguishing the special status of cable route surveys is a frequent error. The consequences of this error can affect a cable system not only throughout its construction, but during its service life as well.

The question of what to do when coastal States insist on treating cable route surveys as MSR is frequently asked. UNCLOS provides remedies. But an answer to this question is beyond the scope of this article.

Judge Teves recognizes two caveats to this priority interpretation. The first is the protection of human life. The second is a determination that the two different activities cannot co-exist. In normal submarine cable laying, including incidental route surveys, or cable repairs protection of human life is not involved. The two activities cannot co-exist as the ability to lay and maintain submarine cables is significantly compromised to the point that cable owners suffer damages and its communications are impeded and placed at risk.

**Doug Burnett**

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The building of large infrastructure projects has been neglected over the last quarter of a century. Many of these needed projects have not been implemented because necessary capital funds have not been available to either the governmental or commercial entities that would benefit from these projects. The process of financing these projects appears to be complex to the uninitiated but the concepts involved are not near as complex as they appear. This article will attempt to explain the basics of the process and provide a few examples of projects which were financed which offer improved infrastructure and save money for the user of the project.
The major parties involved in financing the building of large infrastructure projects are the end user which will receive the benefits of the project, the contractor which will implement the project and Hannon Armstrong, the financing company, which will finance the project. Initially the end user and contractor must design and engineer a project that saves money and will provide benefits that the end user will be willing to make payments that will repay the costs of the project over time. The financing company provides the funds necessary to implement the project and will expect to be repaid over time once the project is completed. It is serious matter to emphasize the importance of the contractor and end-user in the design and engineering of a project. A poorly designed or engineered project will be difficult to finance.

The basics of financing any project is that there is an agreement between the end user and the contractor to implement the project and that there are agreements with the financing company to provide the long term financing for the project. The same agreement may provide the terms of payment by the end-user or there may be a separate agreement between the end-user and the contractor or the financing company regarding payment for the costs of the project.

The implementation of these projects can take up to 24 months from initial contract award to acceptance of the asset. During the implementation of the project, the financing company will require that the contractor be liable for the repayment of all amounts advanced, interest thereon and associated costs of the financing company. After acceptance of the project, the liability for payment will shift to the end-user. Therefore, it will be important to the financing company that the contractor and the end-user be credit worthy. Since the cost of most projects is substantial, the financing company will require that the contractor and the end-user are investment grade credits. In most cases, the end-user and the financing company will require the contractor to post a construction bond during the implementation of the project assuring the timely completion of the project. The financing company often will require the contractor, during the implementation of the project, and the end-user, during the payment term for the project, to obtain insurance on the physical property delivered in connection with the project with respect to the loss or damage to such property during the implementation of the project and term. Certain entities which have substantial credit worthiness such as the federal government will be permitted to self insure, but in any event will be required to indemnify the financing company for any loss or damage to the property.

The financing company will be very concerned that the other parties have authority to enter into each contract or lease. The financing party may require certified board approvals, legal opinions and other documents to evidence the authority of each entity to enter into each agreement to which it is a party. In cases in which the end-user is a governmental entity, it is common that the end-user will not have the authority to enter into an agreement in which the term for implementation and payment for a long term will not be permitted by law. In those cases, the agreements with the end-user can be structured so that the agreement is for a permitted term with options to renew or for the entire term with rights of cancellation or termination. In such cases the financing company will be concerned with the use for the project and will require evidence that the project is essential to the performance of vital governmental needs such that the governmental entity cannot effectively operate without the benefits of the project. It is advisable that the contractor and end-user have their attorneys, experienced in financing projects, involved in the development of the project to avoid misunderstanding late in the discussions.

The financing company will also be very concerned that the project be completed in a timely manner. The agreement between the contractor and the end-user will require the parties to cooperate to implement the project. The agreement between the contractor and the financing company will require the contractor to indemnify the financing company for late acceptance. Late acceptance may also result in a claim against the end-user for those costs incurred by the contractor as a result of failure by the end-user to perform its obligations which result in late acceptance.

The usual payment structure under any type of agreement will require the end-user to make payments at specified intervals (monthly, quarterly, or annually) over a fixed term. Often, there are provisions that require the end-user or give it the option to prepay future payments and cancel or terminate the agreement. The required prepayment or termination payment must compensate the financing company for its investment in the projects and associated costs. The financing company will require that the payments payable by the end-user be paid to the financing company whether by assignment under the agreement between
the contractor and end-user or under the contractor or under an agreement between the end-user and the financing company. The financing company will also want the payments to be further assignable to another financing institution. It is standard for financing companies to assign payments among themselves to change the risk structures of their respective portfolios. Any one who has entered into a home mortgage should be familiar with this concept.

The agreements among the parties will also have numerous other provisions. Examples are provisions regarding which party is responsible for taxes, permits and licenses required for implementation of the projects, whether the contractor, end-user or financing company has title to or a security interest in the physical property and when title transfers or the security interest terminates, whether the contractor or the end-user is responsible for the ongoing operation and maintenance of the physical property delivered in connection with the project, whether a reserve fund is established to assure payment of any future costs or whether the financing company may assume certain obligations and avoid termination of any agreement upon default of the contractor.

There will also be a number of general provisions that are common to agreements. There will be provisions that what law governs the transaction, whether the parties waives any rights to a jury trial, etc. These provisions will be familiar to each party’s attorneys.

As stated earlier, this article will discuss certain examples of project financing. One project involved the financing of a Fiber Optic System for the US Army base on Kwajalein Atoll (USAKA). USAKA is home to the Reagan Ballistic Missile Defense Test Site, which plays a critical role in the research, development, test and evaluation of the United States’ missile defense and space programs. USAKA communications are satellite-based, which is costly and allows limited bandwidth. As a result, Space Missile Defense Command (SMDC) has to maintain a number of expensive contractors at USAKA that could otherwise perform their functions remotely from SMDC's Huntsville headquarters. The financing company, Hannon Armstrong, owns and financed the 2,900 km fiber optic system, connecting to Guam, for further connection to Huntsville. USAKA will be able to significantly lower costs in the Pacific by moving skilled jobs back to the US and accelerate information flows through the secure fiber optic system.

Another example is a project which involved the financing of a fiber optic system for the Norwegian Space Center through intergovernmental agreements that were with National Aeronautics and Space Administration (“NASA”), the National Oceanic and Atmospheric Administration (“NOAA”) and the U.S. Air Force (“USAF”) in the Arctic Circle. Critical environmental data is only available 24 hours a day from an observatory in Norway, in the Arctic Circle. NASA, NOAA and the USAF needed a fiber optic line to ensure fast and reliable transmission of the data, but had no funding. Hannon Armstrong provided the capital required to build the fiber system, taking payment out of reduced satellite transmission fees. The US Government will save over $140 million in communications cost over the life of the system.

Both project described above were of substantial size and the implementation of the projects provided obstacles to their implementation, but each has provided substantial benefits to the end-user, substantial revenue to the contractors and were financed. Although the documents involved in financing a project of such scope may seem complex to the uninitiated, the basics of the transaction are not that complex. The end-user wants the benefits of the project, the contractor wants to be paid for its work during the implementation of the projects and does not want to be liable after acceptance of the project and the financing company wants to be repaid for financing the project.

Scott J. Foster

Mr. Foster is Senior Vice President of Sales and Managing Director of Hannon Armstrong’s Federal Business Unit. He combines 17 years of federal business development with structured finance experience, most recently with GE Capital. Mr. Foster earned a B.A. and a M.B.A. with a concentration in finance from Marymount University and is a Certified Public Accountant.
Legal proceedings are often perceived as costly, time consuming and generally a distraction from core business. Consequently, companies with viable claims forego the chance of recovering damages rather than engaging in litigation or arbitration. Claims are rarely viewed positively. But should this be the case?
Rather than being regarded as liabilities, some claims can be viewed as assets. The key to achieving this is to use the following staged approach to any dispute:

1. Conduct a thorough and dispassionate analysis of the claim at the outset.
2. Calculate the yield potential of the claim.
3. Consider funding options so as to minimise the company’s exposure to legal costs.
4. Use project management tools to ensure an efficient, cost-effective process.

1. Analysis

Early analysis is essential to assess the strength of a claim. This must be dispassionate and comprehensive in order accurately to identify the claim’s strengths and weaknesses. The claimant should therefore seek early input from lawyers detached from the subject matter and personalities involved in the dispute.

As well as an assessment of the legal merits of the claim, the analysis should review the practicalities that may affect the ultimate outcome, such as:

- the availability of evidence;
- whether witnesses will co-operate;
- whether damages will be recoverable and the extent of the recoverable damages;
- factors that may affect the defendant’s approach; and
- whether conducting litigation is compatible with the client’s business objectives.

Lawyers should have a standard approach to providing such an analysis and ensuring that all relevant legal and commercial factors are considered. This should include a month-by-month cost estimate, enabling clients to budget accordingly and factor those costs into a valuation of the claim.

2. Valuing the claim

If the legal analysis is positive, the next step is to ascertain whether the claim is worth the investment (that is, the legal costs and management time that will be spent on the dispute). The basic ingredients of this calculation are the quantum of the claim and any counterclaim(s), the percentage chance of success and costs.

Dispute lawyers are often reluctant to provide costs projections given the unpredictability of the litigation process. However, an early effort to predict likely costs is important in allowing a realistic assessment of whether costs are likely to be proportionate to recoveries.

Software is available to automate this valuation process. Decision trees (one kind of risk simulation programme) can present in graphic terms the possible financial consequences of various outcomes at key points in the litigation process. By identifying key risks at each stage of the litigation, and estimating the likelihood of such risks occurring and the costs (own side and adverse) attributable to the relevant stage, the claimant is able to review, in commercial terms, the likely range of financial outcomes. This, considered with other factors, such as the defendant’s perception of likely outcomes and appetite for risk, can inform a decision on whether or not a particular claim is worth pursuing.

Costs estimates and project management tools can also be used with decision trees to help determine litigation strategy. A company may decide to litigate but when faced with substantial legal costs in comparison to its potential recovery, it wants to work out the best time to settle. Based on cost and management projections in conjunction with a decision tree, the company can determine when the real investment in terms of legal costs and management time is made. This is often after the preparation of statements of case and before disclosure begins (which in this, and in many other jurisdictions, is one of the most expensive parts of the litigation process). Ideally, settlement should take place before that stage and a litigation strategy adopted to try to achieve that goal.

3. Funding options

Having formed a clear picture of potential recoveries and risk, the company can consider whether to use any funding risk management option. The traditional approach in England has been to oppose any such arrangements out of concern for the integrity and independence of the judicial process. However, the recognition by the business community, the courts and the government of the benefits of funding arrangements has made this an important and rapidly evolving area.

There are three basic options open to companies:

1. Conditional fee agreements (CFAs). CFAs help the claimant manage the ongoing costs of proceedings and allow the lawyer to share the risks with the client. They effectively reduce the level of legal fees the claimant has to pay as, under a CFA, the claimant only has to pay a discounted fee. If the claim succeeds, the lawyer gets an additional success fee which is recoverable from the other side. If unsuccessful, the lawyer receives only the discounted fee.

2. Third party funding. The past 12 months have seen a large increase in the number of professional funders with substantial funds to invest in disputes.

Third party funding should also indicate to the other side that a sophisticated third party has reviewed the claim and decided to invest in it. This may be a psychological advantage.

While obtaining funding in substantial matters has to date been a slow process, professional third party funders now have more streamlined procedures in place (see box “Third party funding: what to look for”).

It should be remembered that in English proceedings, and in a number of other jurisdictions, costs will generally follow the event, meaning the losing party will not only be liable for their own costs but will also have to pay a proportion of the successful party’s costs.
After the event (ATE) insurance. ATE insurance protects the litigant from the risk of having to pay adverse cost orders and the costs of own disbursements should the case fail.

It has been difficult to get ATE cover for substantial claims. This may now be changing and cover may also be available for own party costs. Premiums can be high but different payment options are available (purchasing the cover in tranches or a deferred premium where the policy also provides cover for the ATE premium itself). Where available, ATE cover could be combined with a CFA and/or third party funding.

Although CFAs are specific to English proceedings, many jurisdictions will have a similar approach and third party lenders in England will consider funding proceedings in any jurisdiction if the local rules allow it and the claim is suitable.

Companies have for many years assessed the viability of a particular project by making a careful analysis of its value as against any risk before actively managing the project once underway.

### Third party funding: what to look for

In the current competitive market, where few funders have much of a track record yet, claimants should be looking for:

- The funder’s financial standing.
- Funding to cover the whole of the claimant’s legal costs (funders will probably seek to ensure that a conditional fee agreement is in place between the claimant and its lawyers).
- A deal that leaves the claimant with a reasonable percentage of proceeds.
- A full indemnity for adverse costs.
- A willingness to meet security for costs promptly.
- A level of funder involvement with which the claimant feels comfortable.

Claimants should also look closely at termination provisions in a funding agreement and consider carefully the consequences of a withdrawal of funding at any point in the proceedings.

### 4. Project management

A claimant will want to ensure that the funding obtained is applied efficiently towards achieving its objectives. A third party investor will want to see its investment protected. Lawyers can respond to these requirements by adopting a rigorous approach to budgeting, project planning and provision of management information. Again, various software packages are now available to assist in this. By building in regular reviews to ensure that performance is measured against budget, dissatisfaction at unexpected extra costs can be managed. This benefits both the lawyer and the client and enables the client to remain in control of the proceedings.

Companies have for many years assessed the viability of a particular project by making a careful analysis of its value as against any risk before actively managing the project once underway.
Since 2001, **Submarine Telecoms Forum** has been the platform for discourse on submarine telecom cable and network operations. Industry professionals provide editorial content from their own niche and focus.

**Website Banners**

$575/month

Post your web linked banner to the **Submarine Telecoms Forum** website, where 5000+ readers come to view the latest news feed and our bi-monthly magazine.

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**Advertising enquiries:** Tel: (703) 468 0554 | editor@subtelforum.com
Colin Anderson

About SubOptic
The SubOptic Conference and convention is well established as the premier event in the submarine cable industry. It is the only such event to be organised for the industry by the industry, it is only held every 3 years. SubOptic 2010 will be the seventh convention in the series. The first one was held in 1986, and the last event, SubOptic 2007, held in Baltimore attracted over 700 attendees from a wide variety of organisations and geographic regions.
SubOptic 2010 will be held in Yokohama, Japan from 11~14 May 2010, and there are at least ten good reasons why it should be on your “must attend” list, and why you should consider submitting an abstract for paper or poster at the conference:

1. A Great Program
There will be a great program of papers and poster, with a balance of commercial, commercial / technical, and purely technical topics;

2. An Opportunity to be a Part of the Program
Be part of the story enabling the next generation of networks and services, by submitting your abstract after the Call for Papers is issued in April 2009. You have an opportunity to submit an abstract for a paper or poster in the topic area of your expertise, and to participate in the event as a presenter.

3. Valuable Masterclass Tutorials
You will be able to learn about specialised commercial and technical topics from industry experts at the Masterclass Tutorials which are included in the standard registration fee;

4. Stimulating Round-Table sessions
You can attend Round-Table sessions which are topical and relevant to our industry, as well as stimulating and interesting;

5. Interesting Keynote Speakers
The Keynote Speakers from within and outside our industry will provoke new thoughts and ideas;

6. Exhibition at the Conference
There will be an exhibition hall with exhibits from many participating organisations;

7. Top-class Venue in Yokohama Japan
SubOptic 2010 is an opportunity to visit wonderful Yokohama Japan, a part of the Tokyo megalopolis, at a good time of the year for weather;

8. Networking with Industry Leaders
You will be able to network with the hundreds of other industry leaders from around the world who attend SubOptic;

9. Enjoyable Social Programs
There will be an enjoyable social program arranged by SubOptic as part of the conference, including the welcome ceremony, and the closing gala dinner; and you will also be able to participate in and enjoy some of the private social functions arranged by other organisations participating in the SubOptic 2010 conference;

10. It’s For the Industry, and By the Industry
SubOptic is the only conference and convention which is organised both for our industry and by our industry. Our overall focus is to embrace and support all aspects of our industry; from the carriers’ commercial requirements to the supply of technical equipment, services, and expertise.

This event is about quality - and to be accepted for presentation of a paper or poster at SubOptic is to be recognised in the industry.
Conference Theme
The theme for SubOptic 2010 is “enabling the next generation of networks & services”. We will focus on the future of the industry, but will still encourage and welcome papers and posters which look at the enormous hive of activity in the industry since SubOptic 2007.

Preview of the Conference Program
The afternoon of Tuesday 11 May 2010 will include Masterclass Tutorials, and the Welcome Ceremony will be held in the evening. This is always an enjoyable networking occasion.

The opening ceremony will be held on Wednesday morning, followed by a keynote speaker, roundtable plenary session, and paper presentations. Later on Wednesday afternoon the Poster Session will be held.

Thursday and Friday will include further paper presentations, the second Round-Table, and other Keynote speakers.

We have some very interesting Keynote Speakers in the melting pot, and we already have some very good ideas to enable us to make the Round-Table sessions stimulating, relevant, interesting & valuable.

Program Topics
The seven topic areas that we have selected fall into the broad areas of ‘commercial, ‘commercial & technical’ and ‘technical’, as follows:

Commercial:
• Geographical Markets & Global Markets
• Special Markets: Oil & Gas, Scientific, Defense, etc
• Regulatory, Finance, Environmental, Legal

Commercial & Technical:
• Project Development & Implementation
• Marine Services & Marine Operations

Technical:
• System Design & Applications
• Equipment & Component Technologies

Preview of the Call for Papers
The formal Call for Papers for SubOptic 2010 will be issued in April 2009, and will invite proposals for abstracts (essentially a short “executive summary” of up to 300 words) for paper presentations or posters.

The criteria for acceptance of papers or posters will be originality, quality, credibility, topical relevance, and general interest. The abstracts submitted will be evaluated and scored in a professional and impartial manner, by a team of around 70 industry experts under the supervision of the Program Committee.

The following topic areas are proposed, but it is not too late for any additional ideas to be suggested, so if you want to have your input please contact the Program Chair by email (Colin Anderson <colinwanderson@optusnet.com.au>).

Undersea Horizons: our evolving market, enabling tomorrow’s flatter world
PC Vice Chair: Elaine Stafford (David Ross Group)

This session will provide insights on a vast array of global and geographical market related issues that drive and govern tomorrow’s networks, and enable the next generation of telecommunication services. The spectrum of topics covered will include:

• network and capacity supply and demand;
• capacity price erosion – how regional differences in competition and demand influence pricing;
• the impact of today’s global financial crisis on undersea market evolution, demand, and the supply and demand dynamics and the capacity prices;
• mining hidden capacity of existing networks;
• unique projects or models, with respect to their geography, politics, commercial structure, or ownership;
• how new global service trends, such as mobile services and 3G, video services, entertainment, cloud computing, web-meetings, and convergence could shape undersea network architecture, design and demand;
• weaving networks together to create global network solutions- complementary use of undersea, terrestrial, and satellite networks;
• evolution of future private networks (schools & universities, libraries, medical hospitals, MNCs, etc.) and their impact on global traffic and demand.

Special Markets: fuelling the demand for deep water services
PC Vice Chair: Guy Arnos (WFN Strategies)

This topic will include relevant aspects of oil & gas platform cable and other offshore telecom cable business, as well as scientific ocean floor monitoring, earthquake warning, tsunami warning, & weather monitoring & prediction etc by undersea cable; and defence applications of subsea cables. Topics in the area will include the following:

enabling the next generation of capabilities in offshore production:
• engineering, business requirements and challenges;
• network architectures;
• economic and user benefits;
• enabling new business and production practices.

enabling the next generation of undersea science:
• engineering and funding requirements and challenges;
• network architectures;
• scientific benefits;
• enabling new science capabilities.

enabling the next generation of defense applications:
• engineering and funding requirements and challenges;
• network architectures;
• strategic benefits;
• enabling new strategic and operational capabilities.
This session will provide insights on all issues related to the regulatory, finance, environmental and legal aspects of undersea optical cables. Under the broad topic areas below, prospective authors may wish to consider topics related to surveillance, freedom of information, copyright law, standards, contracts, IRU’s, business models, taxes, insurance, international issues, political issues, etc:

- Business Models for Cable and Network Development Worldwide;
- Challenges to the Submarine Cable Industry brought about by the Global Financial Crisis; Financing Cables in uncertain times;
- Worldwide: Understanding the Regulatory and Permitting Environment; Balancing National and International Requirements;
- How can the Industry work towards a more unified permitting environment?
- Protecting Submarine Infrastructure; How the law and regulations can aid the protection of Cable infrastructure;
- The environmental impacts of the Submarine Cable Industry.

This topic area will include all aspects of:
- Project development, including but not limited to:
  - funding issues
  - business case development
  - environmental planning
  - regulatory planning

Project Implementation and Project Management
The project implementation and project management issues, related to recent past, current, and future cable projects.

- Marine Operations & Marine Services: protecting critical subsea assets & infrastructure
PC Vice Chair: Graham Evans (EGS Survey)

The need to protect critical submarine cable infrastructure from both the impact of human activity and hazards resulting from natural phenomena has been highlighted by severe service disruption to installed network infrastructure and potentially pose similar threats to next generation subsea networks. This session will encourage but not limit paper topics that address subsea asset and infrastructure protection, highlight challenges, and provide insight into innovative measures that mitigate risk. Topics will include:

- causes and impact of submarine cable failures on network services;
- identification and mitigating of risk from human activities and natural hazards;
- route planning for secure submarine networks;
- optimising the output from the route survey;
- emerging technologies in cable installation and protection;
- cable maintenance and repair solutions that provide optimised response times;
- the role of international cooperation in cable protection;
- legal and regulatory environment governing marine operational permits;
- new technologies for marine operations & services;
- new applications of existing marine technologies;
- reducing marine installation costs;
- reducing marine O&M maintenance costs.

Creating Tomorrow’s Foundation: system solutions & network topologies supporting next generation services
PC Vice Chair: Marsha Spalding (Tyco Telecommunications)

This topic will include all aspects of the system engineering and system design for all systems including:

- conventional telecommunications cables
- oil and gas applications
- defence applications
- earthquake warning systems
- tsunami warning systems
- Ethernet in the backbone, now and in future
- Any other niche markets and/or applications

Equipment & Components: enabling technologies for the next generation of submarine networks
PC Vice Chair: Masuo Suyama (Fujitsu Limited)

This topic includes:

- the architecture and technologies for the next generation of Submarine Line Terminal Equipment (LTE), to achieve:
  - More Capacity (10 Gb/s based, 40 Gb/s based, and higher speeds); and
  - Longer Spans (for un-repeatered systems & repeatered systems)
- Components and Configurations to combat OSNR, Chromatic Dispersion (CD) and Polarisation Mode Dispersion (PMD);
- New Evolution of Submersible Equipment and Related Components (for Repeaters & Branching Units (BU) with passive, active and OADM configurations);
- Development of Other Equipment, including COTDR, PFE, etc.
Program Committee
The Program Committee is committed to providing a program which is of relevance and interest to all existing and new members of our diverse industry, and which meets or exceeds the highest level of commercial & technical excellence of previous SubOptic conventions.

In addition to the above seven Program Vice Chairs, the Program Committee also includes John Horne (the secretary of the SubOptic Executive Committee), and the Program Chair for SubOptic 2010, Colin Anderson of NEC Corporation.

The members of the Program Committee represent a wide range of organisations from the industry, and have between them some 200 man-years and woman-years of experience in the telecoms industry.

When the first transatlantic telegraph cable failed in September 1858, one newspaper, the Boston Courier, suggested that the cable had never worked, and that the entire project had been part of an elaborate stock fraud. “Was the Atlantic cable a humbug?” There was also a public outcry in Britain when, shortly afterwards, the Red Sea cable (Suez-Aden-Karachi) also failed.

So, 150 years ago the British Government and the Atlantic Telegraph Company set up a joint committee of enquiry to look into the failures of the Atlantic and Red Sea cables. The eight man committee was chaired by Captain Douglas Galton RE, the members were all pioneers of the telegraph industry and included electrical engineering legends Charles Wheatstone and Cromwell Varley. The other members were, William Fairbain, President of the British Association for the Advancement of Science; George Parker Bidder, who invented the concertina and is responsible for the word “microphone”; engineers Latimer and Edwin Clark; and Atlantic Telegraph Company Secretary George Saward (history buffs can Google the names for more info).

The committee heard evidence from many experts of the time, but perhaps the most notable was Professor William Thomson (later Lord Kelvin). The committee’s report was finally published in 1861, and was described at the time as ‘the most valuable collection of facts, warnings, and evidence ever compiled concerning submarine cables.’ It concluded that ocean telegraphy was not as simple as previously thought and there was much still to learn. The report set out a series of recommendations for the construction of submarine cables, the methods of laying them and, thanks largely to Thomson, the methods of testing during production and installation.

One of its greatest recommendations was for the standardisation of measurement of electric current and resistance. This report formed the basis of the first set of standards for submarine cable systems, many of which have survived to this day. However, perhaps the committee’s greatest contribution may have been that it existed at all; this group was the first of its kind and set the standard for many other rigorous inquiries into scientific failures that have taken place in the years since it sat.

John Horne
Secretary SubOptic EC

Colin Anderson
PC Chair (NEC Corporation)

William Thomson
(Lord Kelvin)

Back Reflection
By Stewart Ash

47
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My dear friend,

I need to share with you what happened to me recently: I found myself in an unfamiliar place, somewhere on the seashore, sitting on a bench. A relatively young woman, at least 30 years younger than me, was sitting beside me. Her complexion was such that I was unable to decide which country she might be from. Possibly Eurasian? “Excuse me, sir,” she said, “but I think you can help me.”

“What can I do for you, madam?” “I’m a consultant,” she explained, “working for governmental authorities. Aren’t you a specialist in submarine cables systems?”

“Oh yes, I know the industry quite well. I’ve been involved for half a century. What’s your problem?” “My client is from Greenland, and he is in desperate need of direct capacity to Africa. He needs at least an extra 20 terabits/s to cope with the fast growing demand.” “Between Africa and Greenland?” I asked. “20 terabits? Are you serious?”

“Sure I am. Allow me to tell you about the situation. Last year,” she said, “in 2019, the figures show an actual traffic increase of more than 100%. Since the end of the ice melting in 2015, the Greenland population has more than doubled every year to reach now more than 200 million inhabitants, most of them coming from Russia and China. Greenland is now the largest world harbor since the opening of the northern maritime route. Africa has been booming as well,” she continued, “reaching more than 1 billion inhabitants, most of them coming from China and India. There is now a real African government, somewhat like the European model. The president of this AEC, the African Economic Community, is Mister Yang, a Sino-African, born in Ghana. Greenland and Africa have established cooperation, and the cable is being planned, but the problem is that not a single significant submarine cable has been built in the world since 2012! My company has been given the task to quickly come up with a solution.”

I was puzzled. 2020? I heard myself saying, “My advice is for you to pay a visit to ASN.”

“Sir, perhaps you are unaware,” she said, “but Alcatel-Lucent was taken over by Huawei around 2010. At that time everybody thought the submarine cable market was only turning down for a few years, as has always been the case. But the financial and economic turmoil that started at the end of 2008 completely changed the situation and actually killed the market. The new company made several cables between 2010 and 2012, using their DWDM 40 G technology, but then decided to completely shutdown this activity.”

“Why don’t you see Tyco Telecom?” I asked. “Tyco Telecom?” She shook her head. “Tyco Electronics’ management did not wait long before stopping that activity, which was unprofitable, in early 2012. Then President Obama’s recovery plan failed, which certainly didn’t help. They only kept a couple of cable ships for the maintenance, which were eventually sold to Indian Tata Group.” “What about the Japanese industry?” “NEC and Fujitsu, both of them, never announced anything after the failure of SubOptic 2010. As is often the case in Japan, they shrank down in a kind of “waiting mode,” minimizing their costs and exposure. In reality, the “know- how” is gone.” “You could ask one of the specialized consultancy teams,” I suggested, “such as Axiom, DRG, WFN or Datawave.” “They’ve all disappeared. Only a few individuals like you are still around.” “My god! Are there any other projects coming? Is the market actually coming back?” “Definitively.” She smiled. “Could you think of a solution?”

It was at that very moment that I suddenly awoke from sleep. I was pouring with sweat, and slowly realized that all this was a dream. I was actually enjoying an after lunch nap—a deep one. Was this a normal nightmare, generated by the present global crisis? Or was this a kind of premonition?

Only the future will tell, my friend.

Jean Devos
## UPCOMING CONFERENCES AND EXHIBITIONS

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<td>Energy Telecommunications and Electrical Association 2009</td>
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<td>Subsea Communications Conference 2009</td>
<td>6-8 May 2009</td>
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As you may be aware, SubTel Forum has been broadcasting an RSS feed since June 2008. The purpose of our feed is to save you time and keep you on top of what’s happening in the industry. Sure, you can subscribe to a dozen feeds to learn the latest info from Alcatel-Lucent, Tyco and other industry leaders, or you can subscribe to one feed and get all of the same information delivered to your desktop every day.

I want to take a minute to examine this technology and what it means to the SubTel community. RSS, which stands for Really Simple Syndication, is a means of syndicating content directly to anyone who subscribes to our feed. To put it simply, instead of visiting our website multiple times to check for news updates, never knowing when you’ll find a story that piques your interest, you can have the updates come directly to you through an RSS reader. The articles appear in your reader as a list of headlines that you can scan through and easily pick the stories you want to read more about. RSS is a great way to keep on top of industry news without spending countless hours reading every article on SubTel Forum.

Subscribing is simple. All it takes to get connected to our feed is to click on the RSS button on our webpage or in the magazine. There’s an RSS button on this page...go ahead, try it. Did you see something that looked like a website address? That’s our feed. Add that address to your RSS reader, and you’ll be connected in minutes.

This all sounds great, right, but what about the RSS reader? Is this going to cost a lot of money or be overly difficult to setup? Not at all. There’s a good chance that your computer already has a reader installed, and if not, you can download and install one for free or for a very small cost. The Firefox browser, for example, has a built-in reader called “Live Bookmarks,” and many e-mail applications are also able to serve as an RSS reader. I subscribe to several feeds, and they all display as new messages in my inbox.

Here are just a few of RSS readers that you might want to consider:

- Google Reader
- Bloglines
- NetNewsWire
- SharpReader
- AmphetaDesk
- NewsGator
- News Is Free
- Radio UserLand

I certainly hope you will join the thousands of SubTel readers who have already subscribed to our RSS Feed. It’s one of the fastest and easiest ways to keep on top of the industry and get your News Now.

What do you think? Click on the Letter To The Editor icon and drop me a line. I’d love to hear from you.