FITCE Forum

www.fitce.org Newsletter of Federation of Telecommunications Engineers of the European Union June 2010

49th FITCE Congress on track! - Santiago De Compostella draws closer.

Santiago De Compostela FITCE 2010: REGISTRATION NOW OPEN. www.fitce2010.org

Message from Our President

Dear friends,

Time is running on and 9 months have passed on since I have been elected President of Fitce.

Andrea Penza
FITCE President

The next Congress in Santiago is getting closer and closer and Galician people, with the strong support of the Spanish association, are working hard in order to make the best organization for it.

An excellent technical program has been agreed and the accompanying persons program is completed, and is very attractive in a very nice city which is going to celebrate a very special year.

I recommend all of you: don't miss this chance to come to Santiago, getting the chance to attend a Congress with very interesting topics and high professional speakers and the opportunity to spend time in a typical charming Galician atmosphere. I await all of you in Santiago to strengthen our friendless and relationship.

Please, promote and advertise this Congress within your National Association and encourage participation.
On the Fitce web site you can find everything you need: how to register and all the details about the technical and accompanying programs.

Furthermore, the New Fitce project is continuing with the activities of the three scheduled Working Groups completed during March, April and May, after the first decisions taken in the last CD meeting in Utrecht to develop and detail the Scenario 5. The Financial, Marketing and Internal Organization Working Groups provided the first indications of their commitments which have been analised firstly in Brussels, during the New Fitce Steering Committee (April 30th), and later on in the last CD meeting held in Bucharest on May 27th.

I would indicate that the most interesting topics dealt with in the Working Groups, according to the project scope defined during the last ordinary General Assembly are-

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The Santiago Congress is getting closer.

Olga Pérez
FITCE Vice President.

As time is passing by the Santiago Congress is getting closer. Just a few days left to celebrate our annual meeting; this time under the slogan "The Way of Santiago and European Telecommunications".
During these days our organizing committee is working very hard in order to have everything prepared for the conference.

The Program is ready, but it has been a hard task for the Technical Programme Committee, due to the big number of abstracts that has been presented and the quality of some of them. It was necessary to choose the best. Finally, and after some discussions, 50 abstracts have been selected. The program was agreed; it has different sections going from regulatory aspects to cost modelling, service development, telecom infrastructure and others.

The Social program for accompanying persons has been carefully decided in order to keep the attractiveness of this congress for them, and even trying to improve on the quality of the social activities that we are normally used to.

Contents.

Looking for funds has been another important task for this conference. The Spanish Association of Telecommunication Engineers sponsors part of this congress.

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FITCE 2010 PROGRAMME

The FITCE Paper Selection Committee, have produced a first program. This has 9 separate sessions with 37 high quality papers. There is also a keynote speech from Luis Rodriguez of the European Commission. It includes a Social Programme for Delegates alongside the Accompanying Persons programme.

Wednesday 1st September

19:00 Welcome Desk / Registration
20:00 Welcome reception

Thursday 2nd September

09:00-09:30 Welcome Desk / Registration
09:30-10:00 Inauguration session
10:00-11:30 Round Table: Network Operators
11:30-12:00 Coffee Break / Poster session

12:00-13:30 Session 1:
A New World for Services

"Potential and challenges in the converging ICT and media industry" *Jarmo Harno · Finland*
"Converging Telecom Clouds" *Huib Ekkelenkamp Netherland*
"App Ecosystems and their Relevance to Communication Service Providers (CSPS)" *Bernd Wunderlich · Germany*
"Business innovation for a sustainable internet"
Michel Defloor · Belgium

13:30-15:00 Lunch
15:00-15:40 Key Note Speaker:
Luis Rodriguez, European Commission

15:40-16:40 Session 2:
Should the Access to NGN be open?

"Industrialized Services Access and Onboarding Enabling Applications While Managing Cost and Risk"
Larcher Christophe · USA
"Holistic approach for improving the FTTH business case" *Koen Casier · Belgium*
"Prospects on FTTH EP2P open access models"
Adrian Gonzalez · Spain

16:40-17:00 Coffee Break / Poster session

17:00-18:30 Parallel sessions 3 and 4
Session 3: New advanced Applications

"RFID integration in packaging systems"
Luis Miguel Marias · Spain
"Rebeca: a 3D programming language enviroment for arising ICT vocations in young students"
Susana Mata · Spain
"A Multi Camera System for Automatic Warning Delivery in ambient assisted living applications"
Luca Polidori · Italy
"Monitoring accessibility in digital television"
Mercedes de Castro · Spain
"GNU Radio: A New Paradigm for Software Defined Radio"
José A. García · Spain

Session 4: Intelligent road infrastructures

"Smat cities: Going towards the future"
Anna Calveras-Augé · Spain
"Realistic cost estimation of an inteligent transportation system roll-out on the highways of belgium"
Erik Vanhauwaert · Belgium
"Best practice for the GSM/UMTS network implementation inside high speed railway tunnels.
Case study: Section Lleida to Barcelona-Sants."
Joaquín Fernández de Arcaya Martínez · Spain
"A proposal for traffic guidance and signalling system based on radiofrequency beacons""
Luis Fernández Navarro · Spain
"Training platform on fieldbus networks for automotive applications"
Santiago Otero · Spain

18:30 Close of day sessions

19:30 Buses to Center Town
20:00 Cathedral visit and offer to Santiago
21:00 Typical Galician Dinner

Friday 3rd September

08:30-09:00 Welcome Desk / Registration

09:00-10:15 Parallel sessions 5 and 6:
Session 5: Living in the ICT age

"Why Addressing Human Motivations Still Matter in the digital age: A "Live-Goals" approach to understanding end-user adoption of ICT"
Francis Pereira · USA
"Communications Ancient and Modern:
How does Modern ICT fit into the Tradition of Pilgrimages, an ancient form of communication"
Peter Leonhardt · United Kingdom
"The jump: what is next". *Antonio Luis Flores-Galea · Spain*
"Smarter Business Models For Smart Living, Smart Companies and Smarter Societies"
Mauro Ugolini · Italy

Session 6: Access networks for tomorrow

"SARDANA: an all-optical access-metro WDM/TDM-PON"
Josep Segarra · Spain
"Structured Cabling: An Alternative to traditional solution in residential buildings"
Fernando Martín-Rodríguez · Spain
"Wavelength Division Multiplexed Passive Optical Networks (WDM-PONs) combined with wireless nodes for delivering the bandwidth for next generation access services" *George Agapiou · Greece*
"Added-Value Services Provisioning over inter-technology radio access networks" *Michail Tsagkaropoulos · Greece*

10:15-10:40 Coffee Break / Poster session

10:40-12:00 Round Table: ICT Manufacturers

12:00-13:45 Session 7: Challenges for the Regulator

"Identity, liberty and accountability in the information society an assessment of the impact of European ICT policies" *Graux Hans · Belgium*
"Universal Service: Up to date content development debate and Broadband services in Italy: Development and NGAN regulation"
Francesca de Gennaro and Loredana Vajano · Italy
"The Dilemma of Dividing the Digital Dividend"
Manuel José Fernández Iglesias · Spain
"Consent, an instrument for patient empowerment?"
Griet Verhenneman · Belgium
"Efficient echo and parameters estimation of OFDM signals without demodulation"
Miguel Ángel Ucha Cuevas · Spain

13:45-15:00 Lunch

15:00-16:00 Round Table: Internet Providers

16:00-17:00 Session 8: The road to next generation networks

"Challenges for the European next generation broadband"
Arturo Vergara · Spain
"Self-Manageability in the Context of the Next Generation Networks" *Ioannis Chochliouros · Greece*
"Partnering with Professional Services to Architect the Optimal Backhaul Network" *Thierry Lebugle · France*

17:00-17:20 Coffee Break / Poster session

17:20-18:30 Session 9: QoS Solutions

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"A brief history of QoS"
Edward Smith · United Kingdom
"A Model for QoS optimization at IMS Media Proxy Elements, in VoIP next generation netwoks"
Ioannis Kordoulis · Greece
"Disruptive mechanisms in the QoS provision: the way for a new decade of quality in communications"
Josu Bilbao · Spain
"RUBENS: Delivery of On-Demand Content with Improved Customer Experience: Experimental and Techno-Economic Validation"
Rob Smets · Netherland

18:30 Close of day sessions

19:30 Buses to Center Town
20:00 Telecomm. Galician Event

21:00 Gala Dinner

Saturday 4th September
10:30-11:30 Technical Summary and Discussion

11:30-12:00 Closing Session

12:00-12:30 Coffee Break

12:30-13:30 General Assembly
13:30-15:00 Lunch

15:00 Tourist visit

15:00 End of Congress

Congress Registration Fees

The Congress Registration fees for Delegates are the same as previous years. The prices below DO NOT INCLUDE VAT. It is important to note that VAT rates change in Spain from 16% to 18% from 1st July.

REGISTRATION FEES		Before July 15	Before August 15	After August 15
FULL CONGRESS	member FITCE	425,00 €	525,00 €	625,00 €
	non member FITCE	525,00 €	625,00 €	725,00 €
	student*	100,00 €	150,00 €	200,00 €
DAY ONLY	member FITCE	150,00 €	200,00 €	250,00 €
	non member FITCE	200,00 €	250,00 €	300,00 €
	student*	75,00 €	125,00 €	175,00 €
ACCOMPANING PERSON	with member FITCE delegate	200,00 €	250,00 €	300,00 €
	with non member FITCE delegate	250,00 €	300,00 €	350,00 €

All fees exclusive of VAT
16% VAT until 30th June 2010 and 18% VAT from July 1th

***Does not include welcome reception and dinners**

PROVISIONAL ACCOMPANYING PERSONS PROGRAM.

The Accompanying Persons Program promises to be very exciting, with visits to many historic buildings, a ship tour, visits to Islands and plenty of local Spanish food. Of course we also have the Gala Dinner.

The definitive program will be on the web http://www.fitce2010.org/

Wednesday, 1st of September

20:00 h: Welcome reception (Hotel Puerta del Camino).

Thursday, 2nd of September

10:00 h: Visit to Monte del Gozo

- Guided small-way of St James (2 h. 30 min), including a visit to the Monumental zone
- Lunch in the ancient part of Santiago
- Guided visit to the cathedral (including roofs)
- Visits to some interesting museums

Botafumeiro

19:00 h: Mass and offering to the Apostle in the Cathedral, with the cathedral choir and Botafumeiro. Common activity with delegates

20:00 h: Visit to Pazo de Vista Alegre (20 Km from Santiago), galician romería, typical dinner and queimada (typical drink).

Pazo de Vista Alegre

Friday, 3rd of September

10:00h: Visit to Grove (Ría de Arousa)

- Ship Tour with degustation
- Visit to an installation dedicated to the baby of mussels
- Visit to an Albariño's warehouse in Cambados's zone
- Typical lunch
- Visit to La Toja island

20:00 h:

- Cocktail in the Reyes Católicos Hotel (in front of the Cathedral).
- Institutional Acts (with the participation of the president of the regional Government).
- Gala Dinner.

Saturday, 4th of September

Free morning

13:00 h: Lunch in the Hotel Puerta del Camino.

Santiago´s Catedral

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Telefónica (the leading telecommunications operator in the Spanish and Portuguese speaking world) and the Regional Government of Galicia (region where the congress is held) also support part of it. There are some other companies that collaborate in it. With all of these resources, the organizing committee has done its best, and all of us hope that this congress will be something to remember.

It is not the first time that Spain has organised the annual congress. We have done it before, in Madrid, Granada and Sevilla, where the number of attendees were close to 1,500, and also recently in Barcelona.

As a FITCE Vice-President, I would like to invite you to this event so that we can share ideas, views and knowledge that contribute to build our FITCE social network.

I am looking forward to welcoming you to the Santiago Congress.

Our Organisers.

FITCE

asociación española ingenieros de telecomunicación

Asociación de Enxeñeiros de Telecomunicación de Galicia

Our Sponsors.

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FITCE.be – The Belgian forum for the ICT & Media professionals' community

e-CAR
ICT challenges for smarter mobility

Tuesday 16th of March 2010, hosted by IBBT (Interdisciplinary Institute for Broadband Technology) in Ghent.

This FITCE.be symposium should give an answer to the question of how ICT can contribute to smarter mobility. New challenges are imposed by the ever growing traffic density, as well as the need for more flexible and economic traffic solutions. Intelligent Transport Systems should result into safer, more efficient and more environmentally friendly mobility. Telematics offer an opportunity for new promising information services.

Report by Prof. Chris Blondia, University of Antwerp (chris.blondia@ua.ac.be)
During this event, different views on what ICT related challenges the introduction of the connected car leads to were presented: from the car industry, a mobile operator, a traffic information service provider, the government, etc. More than 50 attendees participated to this e-car event, and many of them were actively taking part in the lively discussions.

Chris Blondia, professor at the University of Antwerp and leader of an IBBT research group, gave a short introduction to this event. He presented the different themes related to how ICT may contribute to smarter mobility: how technologies and information systems may improve the ability of drivers to better respond to hazards on the road and increase the mobility and what are the roles of the stakeholders, the authorities and new partnerships.

Paul Kompfner, head of Sector Cooperative Mobility at ERTICO-ITS Europe (Brussels) is the project coordinator of FP7 EU Integrated Project CVIS (Cooperative Vehicle-Infrastructure Systems). He presented an overview of the CVIS architecture. Crucial in this architecture is the horizontal view: contrary to a vertical view, where each application has its own "box", CVIS proposes a platform open for all kinds of applications. A key message of Paul Kompfner's presentation was that in order to make the car really connected, new partnerships between the ITS stakeholders are required.

Marnix Lannoije, R&D Manager at Flanders' Drive, presented a new view on the automotive industry with respect to the future of e-car. In the discussion whether intelligence should be put into the car or into the infrastructure, Marnix Lannoije defended the idea to make the infrastructure more intelligent and consider the car as a smart actuator, leading to lower costs of the vehicles.

Gert Pauwels, M2M Marketing Manager Mobistar and Orange Business Services presented the operator's role in ITS. In addition to the desk ICT and home ICT, the emerging new car ICT creates new challenges for the telco operators. Indeed, mobile networks are not planned for the communication needs of the connected car.

Gerardo Daalderop, Program Director Telematics Projects NXP presented a road pricing trial, using the ATOP platform, an NXP OBU based on GPS and GPRS, in South-Brabant (The Netherlands). This trial showed that 2/3 of the drivers improve their behavior when rewarded, but when the reward was dropped they went back to their old habits. A key question addressed is the trade-off between what the driver is prepared to pay to use a road segment and the time lost by following a cheaper route. It was also discussed how this platform can be used to deliver additional Value Added Services.

Steven Logghe, Chief Traffic Be-Mobile/Touring Mobilis, presented the view of a traffic information service provider. The Be-Mobile system allows to create a traffic picture in an area using floating car data based on GPS and GPRS information. The use of this traffic information may lead to a reduction of congestion by 10%.

Sven Geerts is director of the Flemish Traffic Center, a public organization that aims to improve traffic safety and travel reliability by providing (multimodal) traffic information. In his presentation he described the dynamic traffic management system used on the Flemish highway network
.
In the last presentation, Filip Boelaert, Chief of Cabinet of Minister Crevits, Flemish Minister for Mobility and Public Works, presented the vision of the Flemish Government, He showed the involvement of the government in a number of key Flemish, Belgian and European initiatives related to smart mobility.

Belgian Young ICT Personality – Competition.

Belgian Young ICT Personality 2010 elected. - *Paschalis Tsiaflakis (KUL) wins the biyearly FITCE.be competition with the topic "Green DSL technology"*

The jury, Pol Vanbiervliet (CISCO), Stijn Van Der Plaetse (Belgacom) and Herman Hendrickx (VRT) selected **Paschalis Tsiaflakis** for its highly innovative, well presented idea with lots of business potential.

Mr. Tsiaflakis realized that energy efficiency should also be considered as an essential design objective for future broadband access technologies. The ICT industry accounts for approximately 2 percent of global CO2 emissions, a figure equivalent to aviation.

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In his exposé, Paschalis Tsiaflakis highlighted **Digital subscriber line (DSL)** technology as an important for the following decades enabling data rates up to 52 Mbps. The performance of DSL technology is boosted by the application of Dynamic Spectrum Management (DSM), which refers to a set of powerful techniques that can further improve the data rates up to 200-400 Mbps. The presented Green DSL technology extends the traditional data rate maximization approach towards a more general energy-efficient approach. Green DSL simulation results have shown that for certain VDSL2 scenarios transmit **energy savings of up to 50% can be achieved with only 5% degradation in data rate performance**.

The proposed Green DSL technology is the result of an international research collaboration between Dr. Paschalis Tsiaflakis and Prof. Marc Moonen from the Katholieke Universiteit Leuven, Prof. Mung Chiang from Princeton University, NJ, USA, and Prof. Yung Yi from Korea Advanced Institute of Science and Technology (KAIST), South Korea.

Runners up for the title were Olivier Rits (Alcatel-Lucent) with the topic *'It's all about the WWW, stupid!*' and Laure Emmanuelle Nonnenmacher (Belgacom) with the topic '*Challenge of the Content & the In-Between*'.

As an expert ICT organization at the heart of Europe FITCE.be (Belgian Federation of Telecom Engineers of the EU) promotes the development of and know-how in R&D, technology and trends in the Belgian and pan-European ICT market. The goal of the biyearly "FITCE.be Young ICT Personality" contest is to allow young professionals to share their ideas and views on a specific ICT topic with a larger audience of professionals and leaders from the ICT industry.

The theme of this year's contest was "**Internet: past and future**".

More information can be found on www.fitce.be or with the following persons

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(The FITCE.be Board.)

Mashed Services and Business Models Enabled by Next Generation Operations Systems and Software (NGOSS)

Next Generation Operator Opportunities

This paper won the best Presenters Award at the FITCE2009 Congress in Prague.

Authors

Marc Cimiotti, CGI

Joachim Schonowski,
Deutsche Telekom Laboratories

Synopsis

For some years the telecommunication business has been facing a radical change. Internet introduction in conjunction with fixed and mobile broadband fuelled the entrance into the "information age".

New entrants into the telecommunication business are acting fast in the digital marketplace, setting up new business models and services and hence reducing operator income.

By comparing successful new entrants like Google, Apple, Nokia … it is striking that they all have one or two things in common:

1. Fast service introduction in conjunction with innovative technologies
2. A control point or service control point as a strategic core

From our perspective, it is vital for an Operator to provide appropriate control points as well in order to be competitive and enable new business opportunities.

Therefore we will concentrate on these topics in order to verify if Next Generation Operations Systems and Software (NGOSS) could support the operator to reduce costs, react faster in digital markets, foster operator control – service control points and support new business models.

In combination with a lean operator approach, we will introduce the concept of an operator ecozone.

Telecommunication and Internet evolution

Telecommunication and Internet evolution lead to full ICT convergence. For nearly 100 years, standard communication services were restricted to analogue voice only services.

The enhancement of PSTN and the occurrence of the Internet and digital information explosion led to the so-called information age. One central aspect is the extreme bandwidth increase within the last two decades on fixed and mobile networks. In combination with the still ongoing digitalisation, the Internet fuelled and still fuels innovation at an enhanced development speed (see Figure 1).

Due to new entrants in the digital business (telecommunication and Internet) the importance of the network domain seems to shrink in conjunction with those fast-acting new service companies of the Web 2.0 era, e.g. Flickr, Skype, Twitter or ecosystem providers like Apple, Google and Nokia which are "sitting" on top of the network.

Telecommunication companies face numerous threats in terms of revenue decline, changing consumer relationships and business models, due to rapid adoption of actual Internet / mobile communication technologies and market trends like Web 2.0 by end users. With the ready availability of new communication methods, the technical possibility and user request for fixed mobile convergence classic communication will be substituted.

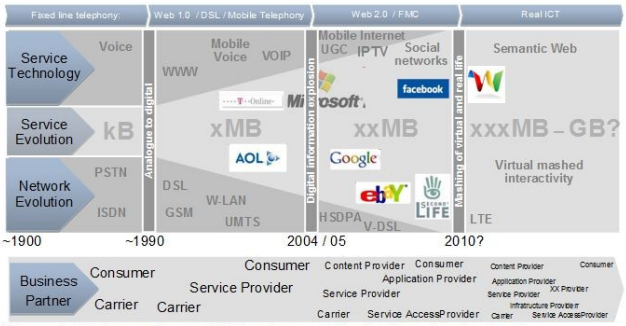

Figure 1: Brief overview on ICT business and technology development.

The traditional access-driven business model, based on the past monopoly of incumbent operators, in combination with some core services will no longer be sustainable in future.
This allowed the so-called "walled garden" (technical and business stovepipe) approach and tied the customer to the operator.

These two important aspects – the customer relationship and underlying business models - changed during the last two decades dramatically and especially with the so called Web 2.0 introduction as depicted in Figure 1.

Technical stovepipes endanger the actual business due to technological inflexibility – traditional product (service) development cycles took some months to even years. Cal Henderson, the lead developer of Flickr, recently revealed that they deploy new builds up to every half hour.

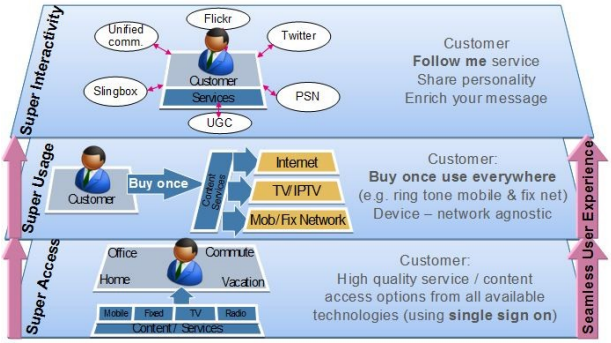

Figure 2: Coupling of Three Customer Service Paradigms: Super Access, Super Usage and Super Interactivity with a Seamless User Experience

The Flickr example shows: Today's technology and service development go hand in hand. The introduction of VOIP technology is used as underlying technology, e.g. for Skype services. Web 2.0 services like social networks and user-generated content platforms are based on modified internet technologies with new service concepts.

Customer demand in a global digital world

The availability age plus recent success and user acceptance of Web 2.0 (e.g. personal social networks) dramatically changed traditional individual and society behaviour.

As mentioned above, the technological progress enabled new service worlds (e.g. mobile data usage grew im-

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mensely with the iPhone introduction) and initiated different, more individual, user requests and usage patterns.
This movement leads to a new customer expectations, which we logically separated in three layers (see Figure 2). The information age changed the traditional 20th century life dramatically. Society changed from a labour to a service industry. Life and work balance has changed and as a result people work from the office, home … anywhere. The same applies to other environments; people expect service or content super access.

In addition users expect super usage of services and content – "Buy Once Use Everywhere"; examples are device agnostic music services, e.g. accessible through the mobile phone or PC (Comes With Music) or TV services like Slingbox available on any TV or your Mobile.

Finally in today's global environment, people keep contact and communicate very different than they did some years ago. Instead of physical contact, people require digital connection to their community(ies) anywhere, anytime with any device where services follow the user.

Since super interactivity should be available across all screens and integrate all kinds of content, it requires super access and super usage. In combination with the available and upcoming communication services like Instant Messaging, Email, Twitter and many others it enables the collective intelligence. Today's user is also a content producer – "User Generated Content".

Whilst the first set of interactive services and the vision described above already exist, all three service paradigms are so far not fully available. In many cases they are provided by different parties with different user ex-

Figure 3: Soft customer demands on telecommunication and Internet service worlds.

periences and different contractual obligations. A seamless user experience is the essential building pillar and needs to be integrated in the product lifecycle.
Besides technical service needs, consumers require soft or emotional aspects (see Figure 3):

- Interactivity - as one central aspect of 2.0 and principal human needs
- Simplicity - required to reduce service and technology complexity
- Convenience - using intelligent service concepts, e.g. follow me services, service integration in user environments – wearables, providing a compelling user experience …
- Time - is the new currency of modern power society

The relevance of time and personal information will become more dominant in the future (e.g. in order not to waste time in call queues or try to reach someone fails, because of lack of presence information) and intelligent usage of available and future technology is required.

Within just two decades, business and product evolution in combination with a different and more diverse user perspective have changed the traditional telecommunication business and value chains, where new and more parties are now in place and influence, impact and revenue of the operator.

What makes the success of new entrants in ICT business?
Comparing three dominating players of today: Apple, Google and Nokia, Figure 4 illustrates their evolution path, starting from a core business, which is continuously enriched by other services, thus forming a "control point".

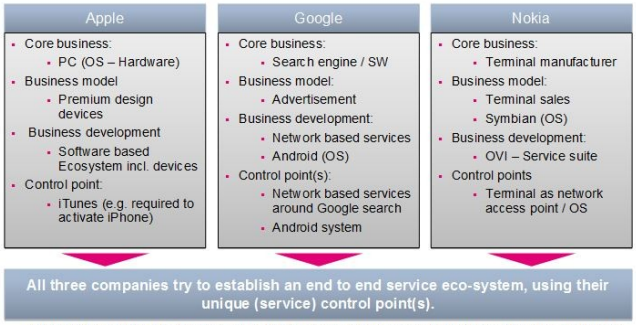

Figure 4: Control points as possible success factor and dominant business driver.

Apple:
Apple started the business in desktop computers in 1976 and competed with IBM and Microsoft in the business and corporate computing market during the 80s.

After a fall during the 80-90s, the introduction of the iMac in 98 and the iPod Apple allowed it to rise again.

Most important from our perspective was the iTunes introduction in 2003 being not only quickly the market leader in online music services but also acting as a starting point for a software based ecosystem including integrated payment.

Today iTunes is the access point for all Apple devices and acts from our perspective as a control point. It is accompanied by the recent introduction of the App Store on July 10, 2008.

Google:
Between 1996 and 2000 Google started from an idea to a business. Within a few years, Google became the most dominant search engine (desktop market share of more than 80% and a mobile search market share of 97% worldwide in 2009) with advertisement as its core business model.

Google has developed a large products and services portfolio centred on search: content (e.g. YouTube) communication (e.g. Gmail), communities (e.g. Blogger), other areas (e.g. desktop search) and technology platforms (e.g. Chrome, Android, Wave).

Google has developed partnerships with all key media businesses that can secure and leverage its role in advertising, while the core service search is free! Thus Google search is the essential control point of Google, which Google tries to transfer into new areas, e.g. Android and the mobile space.

Nokia:
From rubber to telecommunication, what is known today as Nokia was established in 1865 as a wood-pulp mill by Knut Fredrik Idestam on the banks of the Tammerkoski rapids in the town of Tampere.

Nokia's majority of revenue today is based on two divisions: Devices & NokiaSiemensNetworks, where at mobile devices, the Symbian OS acts as control point.

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While these are the actual cash cows, Nokia will add another sustainable revenue stream with their service world and a shift away from a pure telephony to the Internet business. Nokia underlined this ambition by purchasing lots of smaller internet companies and added a similar control point like Google and Apple with the introduction of the OVI store September 06, 2007.

Since these three business examples have a direct impact on the carrier business, the operator is forced to react!

Control point definition
Enablers provide core services like call control or presence to higher level services for reuse of the functionality in a more complex application scenario. Service Control Point is based on a combination of enabler(s) and or service(s). SCP makes enablers accessible and mash it with a service. A service control point in the simplest sense provides control mechanisms to make these enablers available to specific internal or external users. The control point intelligently combines enablers and even other service control

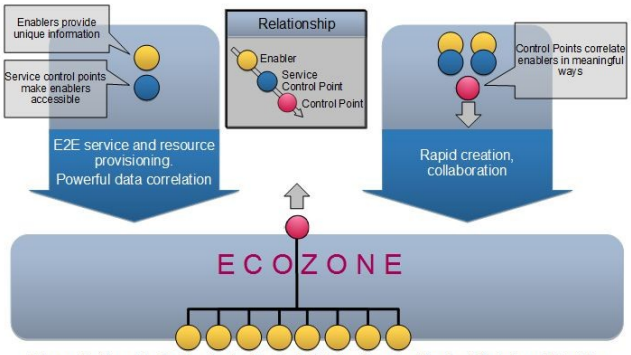

Figure 5: Graphic to illustrate Control Points, Service Control Point and Enabler

points and is capable of exposing mashed services composed of enablers and services on its outside edge. Depending on the context, a CP could be a SCP or consist of different service control points.
Both CPs and SCPs offer the opportunity to foster services in an efficient way and to generate revenue, when offered to 3rd parties. They are offered via an ecozone which we explain in Figure 12.

Control point concept matched to Apple, Nokia and Google
The three companies Apple, Nokia and Google have in common that they form ecosystem silos (ES) spanning from the service to the access plane (see Figure 6).

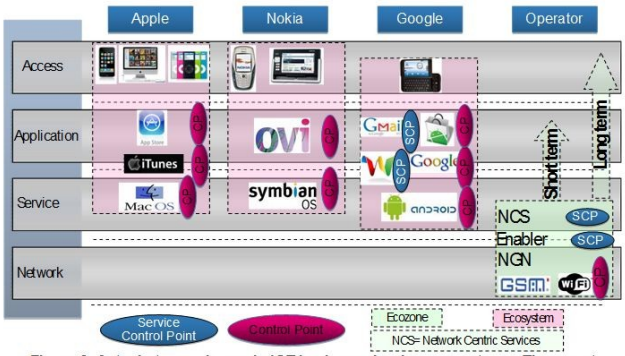

Figure 6: Actual strong players in ICT business develop ecosystems. They create, possess and strengthen control points! Operators need to react.

Device, operating system and an application store based on the appropriate runtime environment delivered via the operating system are in their domain and are seen as CPs or SCPs.

In addition, Figure 6 illustrates:
1. The actual CP positioning within the ESs of Apple, Nokia and Google, using a four layer logic (network, service, application and access)
2. The actual positioning of the operator compared to the other three.

Apple:
The Apple OS is proprietary and so is the available service environment around iTunes and Apple store. If open standards could undermine the existing status quo, Apple blocks this, by changing their OS. From our view, MacOS, iTunes and the Apple store form control points.

Nokia:
Even though formerly Symbian Ltd., a joint initiative of five technical focused companies, was transferred to the Symbian foundation, with the scope to move to open source, it is at least for the time being a CP of Nokia. Starting with Club Nokia, Ovi is the new Nokia marketplace acting as a CP.

Google:
The Google kingdom consists of several CPs and SCPs. The origin is Google Search as first CP and recently added examples like GMail as SCP. Although announced as open source, the OS Android forms from our perspective the Google ecosystem now, with the intent to spread Google services and the basic advertisement business model across many screens and using the Google Marketplace as CP. Google Waves as the consequent continuation of the Web 2.0 idea is seen as another SCP.

Operator / Carrier:
From our perspective, Operators historically have a strong network focus; hence this is the dominant Operator CP. Although many options were and still are available Operators are not utilizing their potential most effectively.

Besides enablers, many untapped opportunities in terms of CP and SCP are:
1. Identity and AAA (e.g. UICC)
2. Network centric services, e.g. network based address book
3. Service provisioning platforms, e.g. mobile application manager

They would support business and the personal situation and convenience. Most important: they do not need necessarily to compete with the new entrants on the same ground but sell their assets to all players "up" there!

Market conclusion:
Successful players in the ICT market place have formed ecosystem silos. Carriers need to react and have many opportunities to change their situation and keep a sustainable and important role in the business logic and value chain.

In order to fulfil customer expectation, the underlying service and technology domain needs to change and to be more flexible.

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A major problem is the monetization of Operator services. Today Operators focus on the concept payment for access, which is due to decreasing revenues not sustainable in the future as a sole business model. New approaches for next-generation business models are needed and need to be supported.

Operator challenges: Customer expectation vs. deployment systems

To fulfill customer expectation and react to new business entrants, the technological side will face new and exiting challenges. Rather than responding with a new "deserted island" stand-alone solution/support for every new service, a consolidated and comprehensive answer should be considered by the Operator. The Operator should consolidate existing capabilities and provide collected enablers (currently trapped at discrete points in the network) in a coordinated, reliable and efficient way. This would not only eliminate the need for functional and data redundancy (affecting also customer experience) but fertilize new business models.

As opposed to "service only" focused newcomers in the market, carriers come with a gigantic and complex IT infrastructure supporting all levels of the model, from network over access, to service billing, and up to sales. Since this bulk is slower to change as lean solutions specifically aimed at providing new services, for large parts these provisioning focused systems are kept out of ad-hoc developments.

Rather, the carriers compete with the newcomers by mimicking their approach and build similar systems next to the existing infrastructure not closely connected and therefore compete on the same level with the competition. Rather than using the vast assets they have at their disposal, they choose to compete on the same ground. In order to gain an edge over the competition and achieve sustainable and consolidated growth in the service segment, it seems worth examining how the IT infrastructure of a carrier has evolved and has to evolve in the future to cope with these challenges. NGOSS provides a powerful tool or starting point to move in that direction.

History of support systems and NGOSS

The BSS (Business Support Systems) / OSS (Operation Support Systems) power is probably the biggest unplayed operator trump-card and the evolution path is shown in Figure 7. We will use the NGOSS concept to explain the correlation between control points and carrier architecture in production today. NGOSS will help in two different ways to achieve this. Firstly with its terminology to provide a common understanding of which

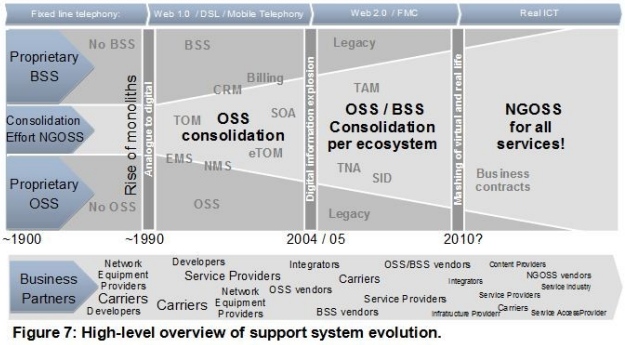

Figure 7: High-level overview of support system evolution.

aspects of the Operator's IT systems we are referring to, secondly by its methodology to show the appropriate ways to use IT in a way required from a business point of view.

Not coincidentally the standards framework for traditional OSS and BSS today known as NGOSS evolved in a very similar pattern as shown in Figure 1. Starting in the network layer and bringing forward standardization and change herein the focus quickly began to broaden and include neighboring aspects and led to the birth of OSS and BSS concepts. Treated as separate entities, BSS and OSS systems started from opposite sides. While BSS was more of a cross-industry approach, combining customer-facing or customer near applications (e.g. customer care, billing and developed downward to the service layer from there), OSS started near the network and made their way upwards. When the focus finally started overlapping, yet another consolidation effort had to be undertaken. The problems these concepts faced around the turn of the 21st century (e.g. rapid development of Internet usage, new service concepts and new players in the service market segment), were first answered with NGN-OSS, new (green -field) OSS systems for the new NGN networks that were to be built. But recognizing that the impact extended beyond the network, this soon became shortened to Next Generation Operations Support Systems: NGOSS.

NGOSS is a holistic approach to mirror a company's business logic to the underlying IT systems. It couples a Business Orientated with a Service Orientated Architecture (BOA – SOA)

As in the service space, we can already see the first glimpse of what is to come. integrated control-points as in the iPhone or new sophisticated mashed Web-services such as Google Wave, we see the signs of changes to come in NGOSS as well.

Just recently the active involvement in the standard is no longer exclusively from the Telco or product/hardware development area, but new players from the service world have started to participate and want to have their say. Ogilvy is looking for new business models and revenue from an advertisement perspective, Amazon tries to integrate its service portfolio into the NGOSS compliant frameworks. However a lot of questions brought up by the new challenges cannot (yet) be answered by NGOSS. So we can expect a significant broadening of scope yet again.

Today, NGOSS is the industry-agreed business and systems framework to guide the implementation of improved business behaviour.

NGOSS logic and lifecycle

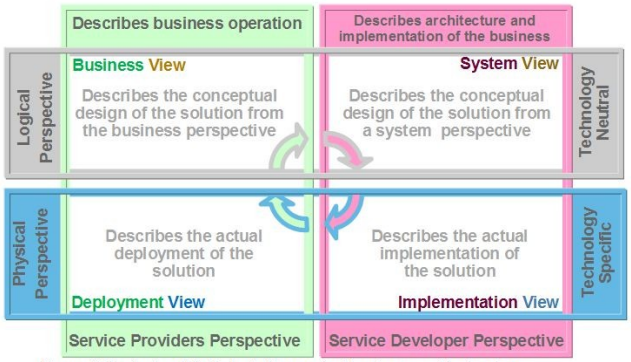

Figure 8: Logical and technical alignment of business and technology.

In order to understand NGOSS it is important to at least briefly describe its scope and outset. The four views shown in Figure 8 provide the focus on specific aspects in an Operator's business.

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This segmentation enables clear definition of responsibilities and needed collaboration. The business side on the left can describe requirements to support new products and services. The IT side on the right focuses on how to support these business requirements from an IT perspective. Another set of similarities becomes obvious when read from top to bottom. The upper two quadrants represent issues on the logical layer while the bottom two look at the physical side of things.

Keeping this picture in mind, the NGOSS lifecycle diagram in Figure 9 describes how these four quadrants relate to the frameworks provided and how the lifecycle for realization of new business concepts supports their IT.

The key elements of NGOSS are:

1. Application Framework (TAM) — standardized model for grouping function and data into recognizable applications or services
2. Business Process Framework (eTOM) — provides logical groupings of processes for building management systems
3. Information Framework (SID) — a common information model for aligning data with pertinent business processes
4. Integration Framework (TNA) — a suite of documents to support the integration of the core frameworks through Architecture Harmonization

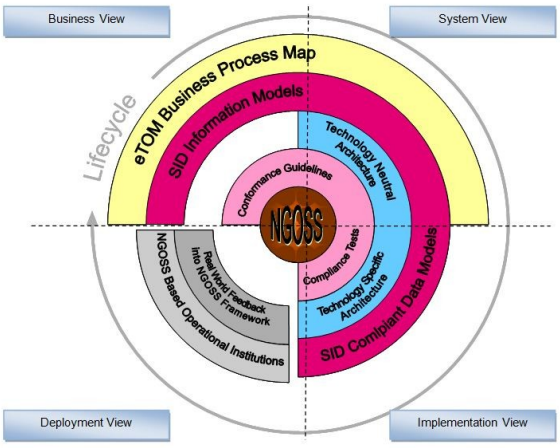

Figure 9: NGOSS Lifecycle.

The depiction of the lifecycle is shown in the respective areas of the quadrants, i.e. in which phases of an improvement lifecycle the respective standards are applicable and how they catalyze each other.
The TM Forum Solution Frameworks can be viewed as blueprints to guide us in progressively moving towards service-orientation over a series of evolutionary phases covered in Figure 7. Their basic structures support service orientation, from the Business Process Framework's set of highly cohesive, loosely coupled process elements to their companion groups of entities/objects modelled by the Information Framework, to the implementation of the processes by reusable business services (also known as NGOSS Contracts) to a catalogue of services by the Application Framework.

In the high-level depiction of TAM as seen in Figure 10, the horizontal areas represent typical organizational structures of an operator. We can think of them as people with role descriptions specific for their responsibility within an operator's value chain along with the IT system that support them in their daily work. These business units can not work in isolation because the products and services provided by the operator require smart collaboration between various different entities.

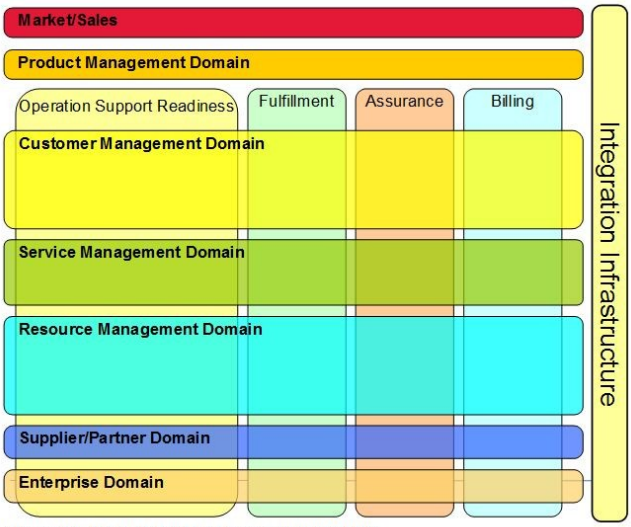

Figure 10: NGOSS Systems framework (TAM)[24]

What differentiates this concept from earlier ones is that in past times the organizational orientation was mostly aligned with the vertical end-to-end processes needed to support customer service represented by underlying vertical areas in Figure 10. These structures were often replicated per product line or access method, further subdivided into special focus, such as provisioning and billing (the silo concept shown earlier).

NGOSS' goal is to understand and appreciate these dependencies and free up potential synergies by first isolating structures with similar responsibilities and second providing the consolidated interaction framework to put the fragments together in meaningful ways. By liberating all aspects needed for carrier operations NGOSS is sometimes referred to as the "New Telecom Ecosystem".

Control points within a NGOSS framework

NGOSS provides all features expected of an ecosystem. It contains a vast number of the Telco's enablers distributed over a large number of systems. While NGOSS is a conceptual model, it shows how architectural changes in the IT landscape make enablers accessible.

Already Telecoms are engaged in projects defining and exposing certain enablers to external parties, thus creating service control points to small portions of their overall capabilities.

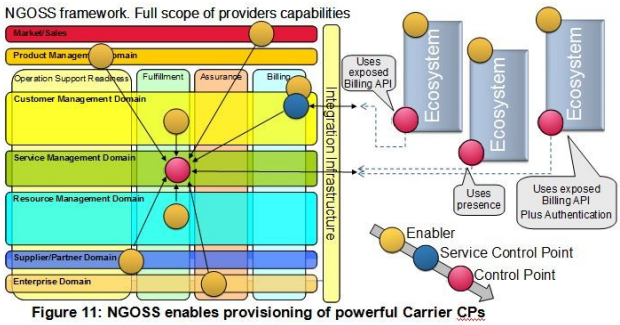

Figure 11: NGOSS enables provisioning of powerful Carrier CPs

This approach is leading in the right direction. However it subdivides the entire NGOSS focus into smaller ecosystems such as one for billing.

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If NGOSS is to be seen as an eco-system by itself it should also provide control points, enabling enhanced services through combining existing enablers and service control points as seen in Figure 11. The enablers found in the landscape contain detailed authentication and usage information across networks as well as end-device and history information along with contracts and ability to bill.

The architecture components, allowing combination of eco-systems by consolidation and mashing of their enabler capabilities becomes an ecozone. Ecozone resembles platform logic. It provides the essential required tool set for the development of E2E services. Those E2E services could be also ecosystems from service logic.

In this respect it is important to see the implications both on NGOSS and its supporting landscape as well as on connected entities like the network.

OSSs provide a powerful bridge to the network layer, thus connecting it to the service layer. In the consolidated approach NGOSS needs to be extended to support full control point functionalities to external entities. This control point can be made capable of correlating and intelligently discovering and exposing network and service enablers. The technological SOA base is part of the NGOSS approach the control point enabling platform still needs continued attention.

When pursued in the suggested way, a control point on NGOSS outside edge will provide combined enablers and ready services to be used by individuals or third parties from the outside, enabling the creation of cross access and cross network services.

Ecozone triggered service environment

The introduction of NGOSS and the concept of an eco-

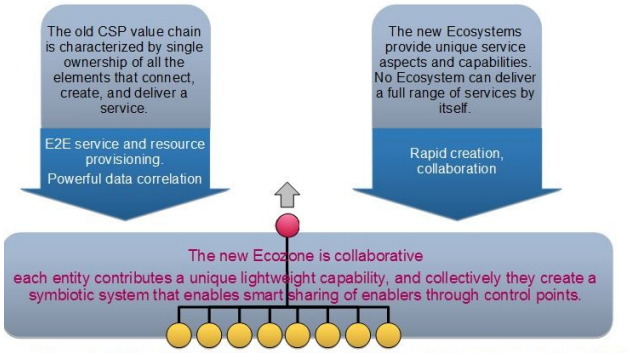

Figure 12: Graphic illustrates the ecozone definition and integration of the control point concept

zone, defined in Figure 12, offers the Operator the perspective to provide Operator own services (mashed or unmashed) and to sell CPs to 3rd parties, thus introducing new business opportunities (see Figure 14).
The NGOSS driven ecozone would enhance the provisioning of services, which are available to the user at any time, any device and anywhere (follow me services) and support seamless content super usage "Buy once use everywhere". These services could be either Operator services, like network centric services or 3rd party services enriched or enabled by the Operator ecozone.
Such a logic including an underlying business process supporting IT landscape would support individual and cross service usage and super interactivity, e.g. blur borders between communities using a network centric address book.

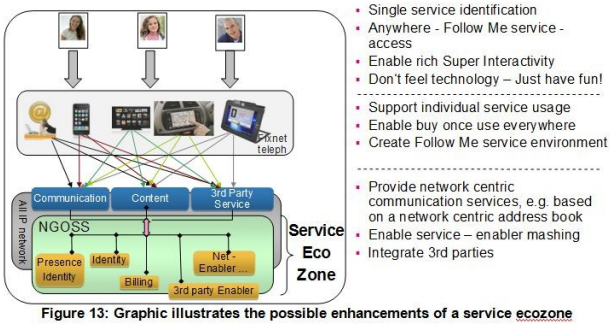

Figure 13: Graphic illustrates the possible enhancements of a service ecozone

Customers could re-use a ringtone bought from a mobile at the fixed net telephone as well – thus the requested called party is identified at home per ringtone.

Mashed services and business models enabled by NGOSS

Example: UICC and Netcentric Addressbook
Besides the ecosystem silos mentioned earlier other silos, e.g. cable companies exist or will develop (see Figure 14).

Most silos today provide a marketplace environment and a community.

Due to the silo structure and logic these concepts limit the consumer freedom and interaction possibilities not only from a technical but mostly from a business regulated perspective. In addition the user needs to remember several login procedures, transactions might work with different interaction logics and in order to be up to date with their friends they need to register at many different com-

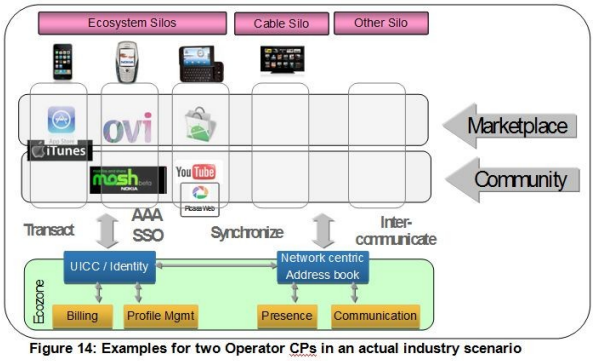

Figure 14: Examples for two Operator CPs in an actual industry scenario

munities. Although fist companies arrive on the market to tackle some of these problems, the Operator should tap into this area.
The Universal Integrated Circuit Card (UICC) could be used for authentication purposes thus enabling, e.g. Single Sign On, marketplace transactions …, thus acting as control point.

A network centric address book (NCAB) could enable a whole Operator service suite:
People spend much time and waste money trying to call someone but don't get through.

Using a NCAB where all devices of a called party A are provided, an intelligent communication service (similar to IN concepts) could assure, that a calling party B would reach party A regardless which number / nickname was called, since all devices of party A ring at the same time. Alternatively if the system has the presence information, only the device presently in use by party A rings.

In addition calling rules could be set up once and used for all phones – in the future voice call access points.

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In addition a NCAB would allow device independent automatic contact synchronization, enable community intercommunication, use presence information for targeted advertisement and so on. Services which reduce time spent for an action enhance convenience and are simple to use thus raising customer loyalty.

Conclusion

The previous chapters outlined the market pressure on Operators especially driven by new market entrants with flexible services and business logics. Most of these companies use CP or SCP within new ecosystem silos, hence enforcing customer loyalty and reducing revenue from the traditional industry.

Companies with traditional business logics – models are forced to react (see Figure 15).

Introducing an NGOSS based ecozone would provide the technological platform for an Operator to reduce costs, provide a flexible environment in terms of technology –

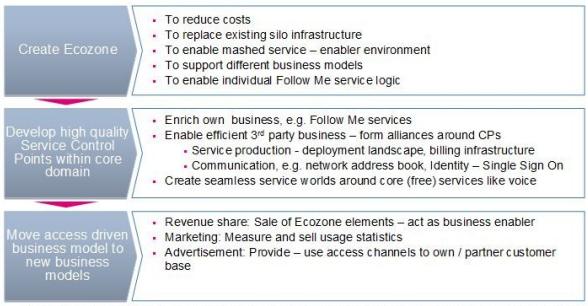

Figure 15: Ecozone provisioning in combination with CP and SCP offer new business model and revenue potential

service & business logic, individual services and provide lean structures.

CP / SCP would enable the Operator to enrich own and partner business. Creation of seamless service worlds using a free service as entrance point, e.g. (NCAB) could leverage usage of secondary services (Google model) providing indirect profit and strengthen customer loyalty.

Finally the combination of high flexible business landscape, CP and seamless service worlds would offer the opportunity for additional business models like advertising, marketing and revenue share.

As seen NGOSS is capable of providing a powerful building block in the Telcos' upcoming challenge and battle for the service market. The service industry has already discovered this and takes active interest in shaping the future of NGOSS. Will the Operators continue to see NGOSS as a cost-saving IT program or will the control-point controlled eco-zone become reality?

(Continued from page 1)

- Scope & Mission for the new Fitce
- Create new appeal towards members & potential members
- Enhance the web site , make it more usable and start to use digital media
- Advertising Fitce within the new digital world, possibly enlarging the typologies of members (ICT professionals, Media stakeholders…)
- Strengthen the relationship with the EU boards
- Deal with a new Congress formula.

However the activities are on-going and in the next General Assembly, which will be held in Santiago during the next Congress, a report will be produced for all the Fitce members, who will see the progress of the project, make comments and review the tasks.

I strongly recommend you to get in the loop and contribute to the success of the project. Fitce is of all of you and only together will we be able to identify and build the best Fitce of the future. I would wish to all of you an excellent and relaxing holiday time, and I hope to see you all very soon in Santiago, where we will together have an excellent networking time.

FITCE Forum

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3. Building strong cultural and business ties between European ICT Professionals.
4. Ensuring that Young Professionals are able to use FITCE as a valued resource in their career development.