# ITU-D Regional Development Forum for the Asia Pacific Region

**“NGN and Broadband, Opportunities and Challenges”**

**Yogyakarta, Indonesia, 27 – 29 July 2009**

# NGN Infrastructure and Services Evolution

**(Telecom Italia Experiences in Asia-Pacific Area Supporting NGN evolution)**

Boris Moltchanov

Telecom Italia

boris.moltchanov@telecomitalia.it

# Telco Market Main Trends (1/2)

| | |
|---|---|
| **Voice Revenue Decline** | ‣ Tier 1 operators are facing progressive traditional voice traffic decreasing both on mobile and fixed networks<br>‣ **Voice is becoming a commodity** |
| **New players are emerging** | ‣ In the Digital media service segment **co-marketing** between NP, SP & CP, with overlap on CATV, Portal and Telco market<br>‣ New Players on **Social Networking** (MySpace, FaceBook, etc..) are bringing revolution on traditional business model and branding policy |
| **Customer Experience** | ‣ Customer is asking **ubiquity and technology transparency**, focus is on service and quality not on platform<br>‣ It uses multiple devices (Blackberry, IP phone, Laptop, WebTV, etc..) to access services in a convergent way |
| **CAPEX & OPEX reduction** | ‣ Actual Finance critical situation is reducing available economical resources<br>‣ **-10%-20% on yearly CAPEX (YoY)**<br>‣ Cost & debt reduction, efficiency growing are becoming the main strategic leverage |

# Telco Market main trends (2/2)

| | |
|---|---|
| **Tariff slowdown** | ▸ Competition from start-up companies and new comers, is dramatically reducing ARPU on the mass-market customers<br>▸ To mitigate margin erosion **flat and bundle offers are promoted** |
| **Market saturation & Churn** | ▸ In EU Zone (e.g. Germany, France, NL), BB market penetration is reaching a saturation point, with stable customer base and increasing churn<br>▸ **Customer Retention and Loyalty** are gained only enforcing price reduction, Quality of service & support policies |
| **Web Community evolution** | ▸ From Mobile (SMS, MMS, WAP) and Fixed VASs (3P call, voice msg) to **Multimedia** (Gaming on-line, Mobile TV, DVB-H, Video downloading)<br>▸ From IM, P2P, chat, **to social networking, Web 2.0** (Second Life, semantic groups) |
| **New regulatory scenarios** | ▸ Pressure for Network Infrastructure and Service Provisioning separation (e.g. Open Reach) **to remove competition barriers** and domestic incumbent dominating position<br>▸ Evolution towards UltraBB, **overlay vs replacement model** on NGN2 development |

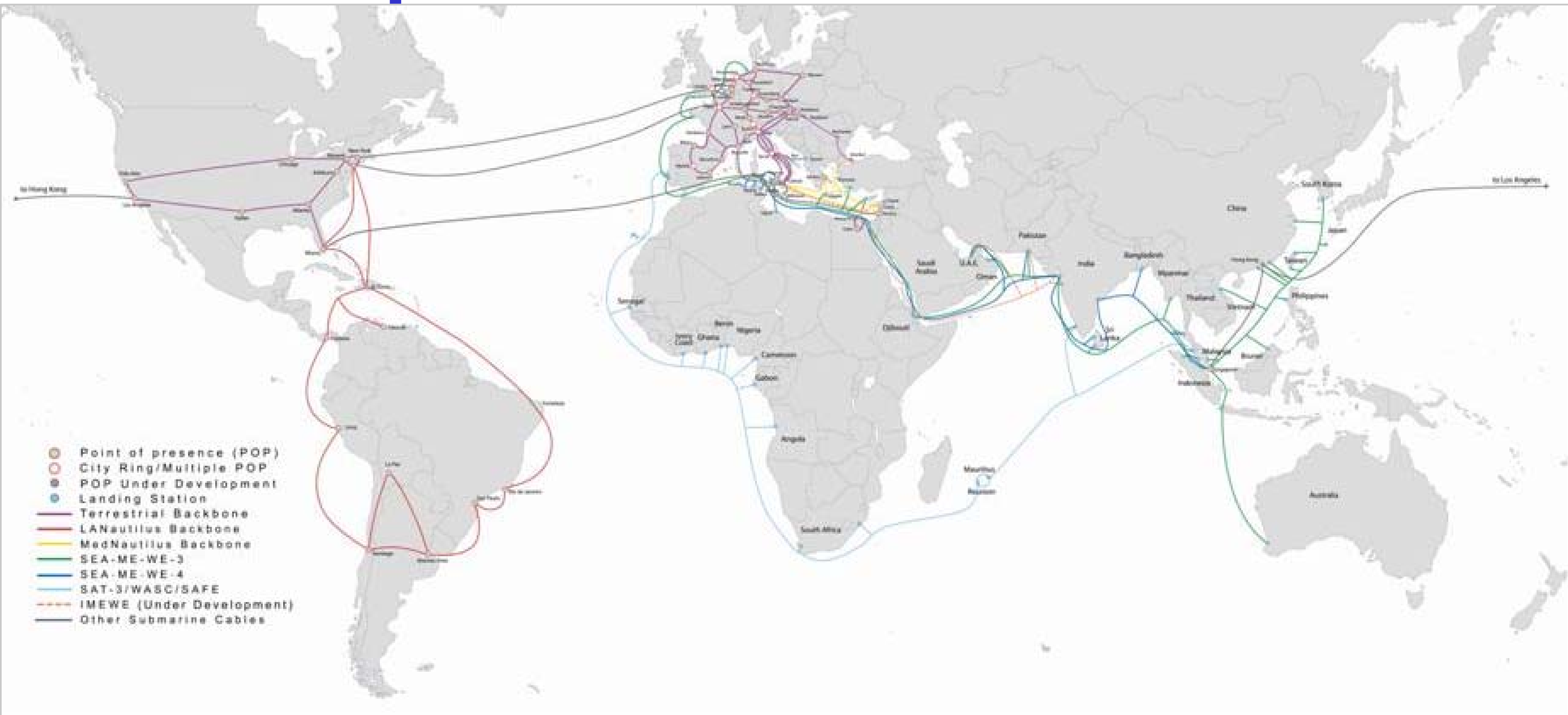
# Telecom Italia: Overview

- **TOP ICT company leader in offerings and innovative services**

- **Operations in Europe, South America and Mediterranean**
  - 20 million fixed lines in Italy
  - 34.2 million mobile lines in Italy and 36.1 million mobile lines in Brasil
  - 10.8 million broadband connections– of which over 2.5 million abroad
  - Number of employees: 77,500

- **Economic and financial results at March 31, 2009**
  - Revenues: 6,8 Bln € (30,2 Bln € in 2008)
  - EBITDA: 2,8 Bln € (11,4 Bln € in 2008)
  - Industrial Investments: 1,0 Bln € (5,4 Bln € in 2008)

# T.I. Sparkle: Global Network




- Worldwide coverage through bilateral network
- Integrated and resilient proprietary backbones in Europe (PEB), Mediterranean Basin, US and LatAm
- Unique dual protected fiber path in Europe
- Full IP - softswitch multi-service network
- Unique footprint in the Mediterranean region through bilateral cables, MED Nautilus and SMW4-3
- Protection of the optical link via meshed architecture and 3G interworking architecture in progress

- 55,000 km/fibre PEB
- 30,000 km LAN
- 7,000 km MED
- 3,500 km Italian Network
- 434,500 km submarines cables

# T.I. Sparkle Consulting: Mission

***The mission of Consulting Services is to make available the big expertise of the T I Group***

- In our view, there is a sizable difference between Telecom Italia's Consulting Services and other traditional consulting companies (AT Kearney, Accenture, McKinsey…)

- We offer in-depth know-how, derived from our experience in the field
- We do not speak about theoretical strategic guidelines but we offer our concrete experience accumulated throughout the years in all the innovation areas where a big Group such as Telecom Italia is committed

Our target clients: Mobile and Fixed operators + Governments/TLC Ministries/Regulatory Institutions worldwide that may benefit from our broad telecommunications expertise.

# International Expertise: Consulting Projects

We have the experts!


*Telecom Italia Labs:*

*Over 1000 researchers*

*80 patents/y, over 600 cumulated*

*TI Group: 3 B E/y investments in innovation, 84000 employees*

# Telecom Italia Consulting Services: Portfolio

| Supported Activities | Personnel | Marketing & Sales | Network | Synergies |
|---|---|---|---|---|
| TI Knowledge and Expertise | **Personnel**<br>▪ Definition of Organizational Structures.<br>▪ Definition of Processes.<br>▪ Change Management<br>▪ Workshop/Visits<br>▪ SATIRO (TI tlc Learning Center for International operators) | **Marketing**<br>▪ Strategic planning<br>▪ Market analysis<br>▪ National/Int'l Traffic analysis<br>▪ New product development (eg. Alice)<br>▪ New advanced fixed wireline services<br>▪ Support in sales and post-sales<br>▪ CRM-Call Center<br>▪ Advanced Terminals<br>▪ IT solutions for MKT | **Network**<br>▪ Architecture, Planning, Operations & Maintenance<br>▪ NGN Networks: migration plan, architecture, implementation<br>▪ Integrated network architecture<br>▪ Management systems (OSS/BSS) | **Synergies**<br>▪ Support in negotiations with Technology Suppliers<br>▪ SW licences<br>▪ TI Group Research & Development Center - TILAB |

# Telecom Italia Consulting Services: 4 Levels of Service

- **Training**
  - Standard and ad-hoc (tailor-made) courses: Telecom Italia Learning Services (TILS)
  - Targeted courses, e.g. “Satiro” program on international telecoms
  - On-the-job training, focused workshops and visits
- **Know-how transfer**
  - Commercial areas: marketing (IPTV, BB, VAS), sales, customer care (CRM)
  - Fraud Analysis & prevention
  - Technical areas: network (NGN, IP, 3G), support systems (OSS, BSS)
  - General areas: strategy, organization, security, change mgt.
- **Management Transfer**
  - Detachment of senior/middle level managers
  - Short-term (6 mos.), long-term (>1 yr.), special assignments
- **Outsourcing**
  - Platform interconnection, usage-based (revenue sharing) tariffs
  - Main platforms: SMS/MMS, Web and BB (Alice), intnl. Pre-paid and Tool-free, MNC’s services (IP-VPN with MPLS), call centers
  - CAPEX-free, fast introduction of new services

# Telecom Italia is the Leading Telco Operator in Italy

## Telecom Italia Key Facts

- 18.8 million **fixed lines** in Italy as of March ‘08
- 35.9 million **mobile lines** in Italy as of March ’08
- 6.5 million **broadband** retail access lines in Italy as of March ’08 (63% MS)
- Italy’s **leading portal** Virgilio - 14.7 million Page Views (EoY 07)
- **1Q08 Domestic** Results
  - **Revenues**: €5.6bn (of which €3.7bn from fixed operations)
  - **EBITDA** €2.7bn (47.5%)
- Approx 85,000 **Employees**

## Italian Consumer Market trends

- **Overall Telco Market** relatively flat
- **Decline** of **traditional** Telecom services (also due to regulator pressure)
- **Decelerating Fixed Broadband** growth
- **Internet = BB** and **mainstream** service in Italian lifestyle
- **Booming Mobile Broadband** (access and browsing)
- **Tightening ADSL competition** also from Mobile Operators
- Rising **Digital Advertising**

# Alice: a European B-B Brand







# Telecom Italia Acted as the “Broadband Market Maker” Through a Continuous Business and Technological Innovation

## Telecom Italia Broadband Service Innovation Path

| 2001 | **2002** | **2005** | **2007** | ***2009*** |
|---|---|---|---|---|
|  |  |  |  | **Future Innovation Guidelines** |
| HIGH-TECH | SEMPLICITY | SPEED | DIGITAL HOME | • Value-Based strategy |
| ADSL Offering Launch | Alice - Internet of wonder: Woman brand, self-installing ADSL and pay-per-use | Alice 4 Mega: Internet @ full Speed | Alice Triple Play: Voice, Internet TV, entertainment … towards the Digital Home | • Customer Experience excellence |
| Create a new market | Shape broadband for the mass market | Fence the competition on new customer acquisition | Fully penetrate the Italian family also beyond internet aware customer | |

- Telecom Italia shaped the Italian **Digital Home** through a continuous innovation of:
  - Internet **Access**
  - **VoIP** products
  - **TV & Entertain-ment**
  - **Connected Home** products
- … leveraging on **Convergence** to create value

# ...also for Mobile Services

*Connectivity*

- **BB data offer integrating fixed and mobile accesses**
  - TIM internet mobile (HSDPA technology at 3.6 MB)
  - Internet at home with ADSL Flat up to 2MB

*Mail*

- 3 GB **mail** with Antivirus/Antispam and 300MB **Personal Area**
- **"Transparent" authentication** through mobile
- **Mail Push** to receive & send mail through mobile device as well as Pc

*Instant Messenger*

- Through **PC & mobile**
- **"Transparent" authentication through mobile**
- Interoperability with other communities
- Integration with mail and VoIP

The first that communicates also via **TIM** mobile phones

# Telecom Italia Offer : Our Priorities for the Evolution

- **Flat Pricing** "mass market-oriented" for surfing and voice
- **Simplified tariff plan**

**Marketing strategy "Broadband for all"**
leveraging on the "All IP" development

**Convergence and Quadruple Play** as differentiating factors

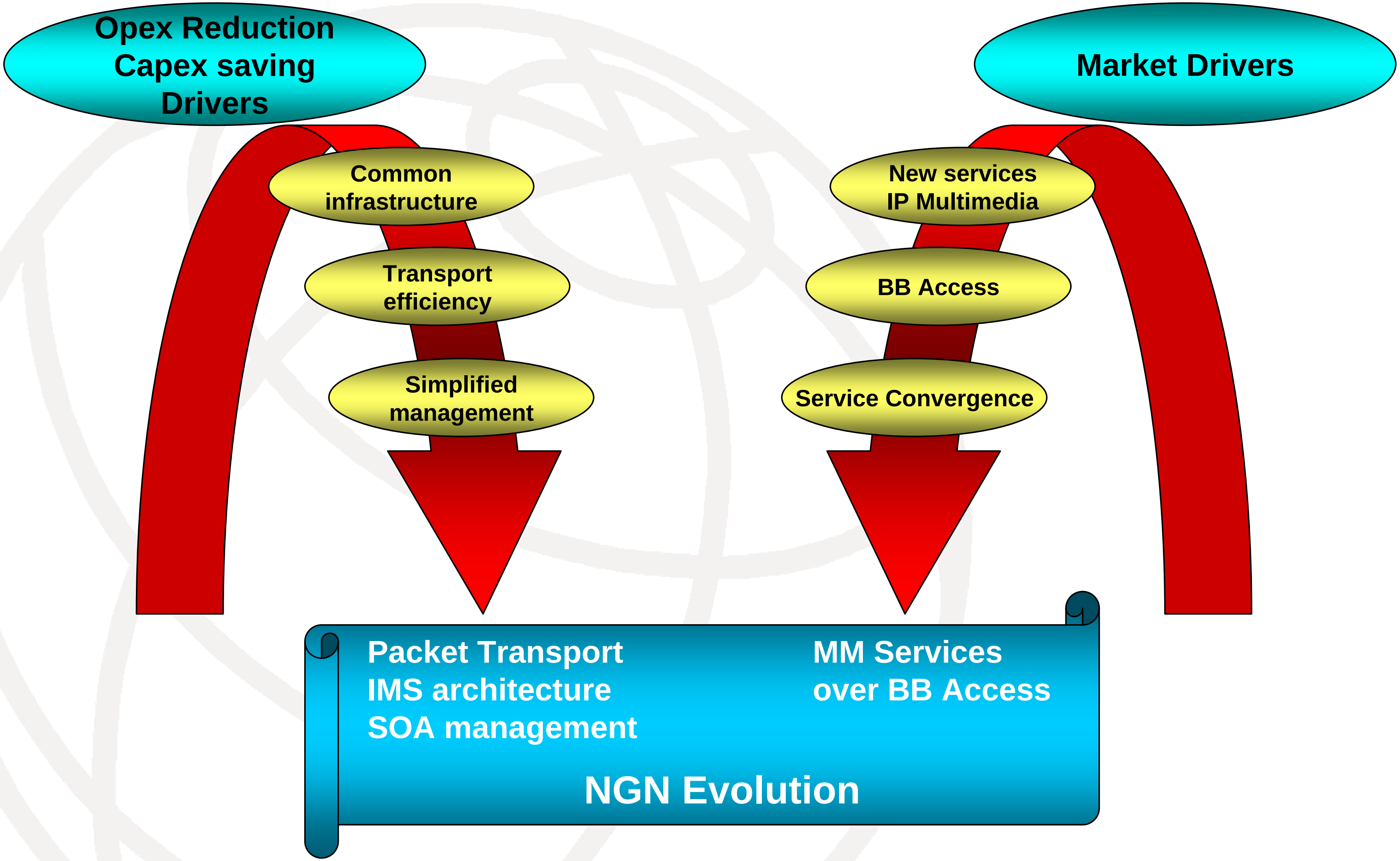
Leadership in **digital Entertainment**

Focus on **Caring and Quality of Service**

**Focus on Connected Environment within Managed Services at home/office**

**Products as means to enable innovative services**

# NGN Drivers


Opex Reduction
Capex saving
Drivers
Market Drivers
Common
infrastructure
Transport
efficiency
Simplified
management
New services
IP Multimedia
BB Access
Service Convergence
Packet Transport
IMS architecture
SOA management
MM Services
over BB Access
NGN Evolution

# NGN key items considered

- Infrastructure and service evolution plan
  - Service platforms and service layer
  - Network infrastructure for Fixed and Mobile
    - Physical transport network
    - Wireline and wireless access
    - Metro network
    - IP-MPLS backbone
  - IT management architecture and systems (OSS/BSS/CSS)
  - Mobile evolution plans
- Business model and Business plan definition
  - Service profitability forecast
- Human Resources organization

# NGN Evolution for Telkom Indonesia

- 2 project done and 1 ongoing
  - NGN evolution Network Technology centric (2006)
  - NGN evolution Service centric (2008)
  - NGN “Business model and organization” centric

# Organization of Work Consulting Project 1

- *Evaluation and Analysis of TELKOM's Existing Technology and Infrastructure*
- *Best Practice from World Class Operator*
- *Target architecture & Gap analysis*

- *Evaluation, Analysis and Formulation of NGN based services*

***Formulation of Blueprint on TELKOM NGN infrastructure and Technology***

***Formulation of NGN Business Plan***

***Evaluation, Analysis and Formulation of Blueprint on the Development of Organization and Human Resources***

***Elaboration of NGN implentation plan***
***Scenario and stages for the trasformation into NGN***
***NGN Vendor Analysis***

March 6° 2006

**180 days**

***Overall Responsibility and Guidance***

***Administration***

# NGN Project 1 Drivers

The main NGN drivers are:

- The increase of the **IP traffic** non-voice traffic for business and residential users on the backbone and access networks
- The necessity of OPEX reduction of the traditional TDM infrastructure:
  - Rationalize existing platforms
  - Replace old technologies
  - Concentrate control and supervision in few centralized locations
- the opportunity of CAPEX optimisation investing in the most advanced and future safe technologies with lower cost/bit
- the availability of new technological leverage that enable the deployment of BB and Multi Media services with a unique IP based core platform capable to grow and evolve in terms of capacity and performances

# Network Architecture and Technology Blue Print Guidelines

- Evolve towards NGN starting from a single IP/MPLS homogeneous backbone network for all services to improve network cost-efficiency and network availability
- Introduce the QoS and carrier grade features to successfully transport different kind of traffic (Internet, Voice, Business services, IP TV)
- Migrate traditional service on the common IP backbone starting from the whole Class 4 traffic and the Class 5 traffic from the new Flexi and the new NGN Class 5 nodes
- Develop xDSL an FO Broad Band access and Metro Networs for new multimedia and triple play services
- Introduce new application platform for BB and convergent services

# Organization of Work Consulting Project 2

- Task 1: Service Platform Assessment & Evolution Guideline
  - Current State Evaluation and assessment
  - Master Plan Insync 2014 Study
  - Evaluation of possible target service architecture
- Task 2: Network Infrastructure Assessment & Evolution guideline
  - Assessment of the actual TELKOM Network segment
  - Assessment of the Master Plan Insync 2014
  - Network architecture and network design development
- Task 3: Next Generation Service Portfolio, Definition & Road Map
  - Assessment of the AS-IS situation
  - Proposal of a target scenario
  - Identification of the step (Gap Analysis) that allow the evolution of the current situation to the target
- Task 4: NGN Network Capex evaluation and business plan, tariff & costing model
  - Network Dimensioning & Capex Evaluation
  - Business Plan
  - Define Tariff Strategy & Costing Model for New NGN Services
- 7 Training courses in Rome, Italy
- And for all this 90 days duration only!

# Project 2 – Business Plan Methodology

**1. MARKET EVOLUTION**

strategy

**1. INSTALLED LINES**

**2. REVENUES STREAMS**

- → Voice Traffic (POTS)
- → Fixed BB
- → Wireless BB (WiMax)
- → VAS Services

**3. CAPEX** | **4. OPEX**

**DIMENSIONING MODELS**

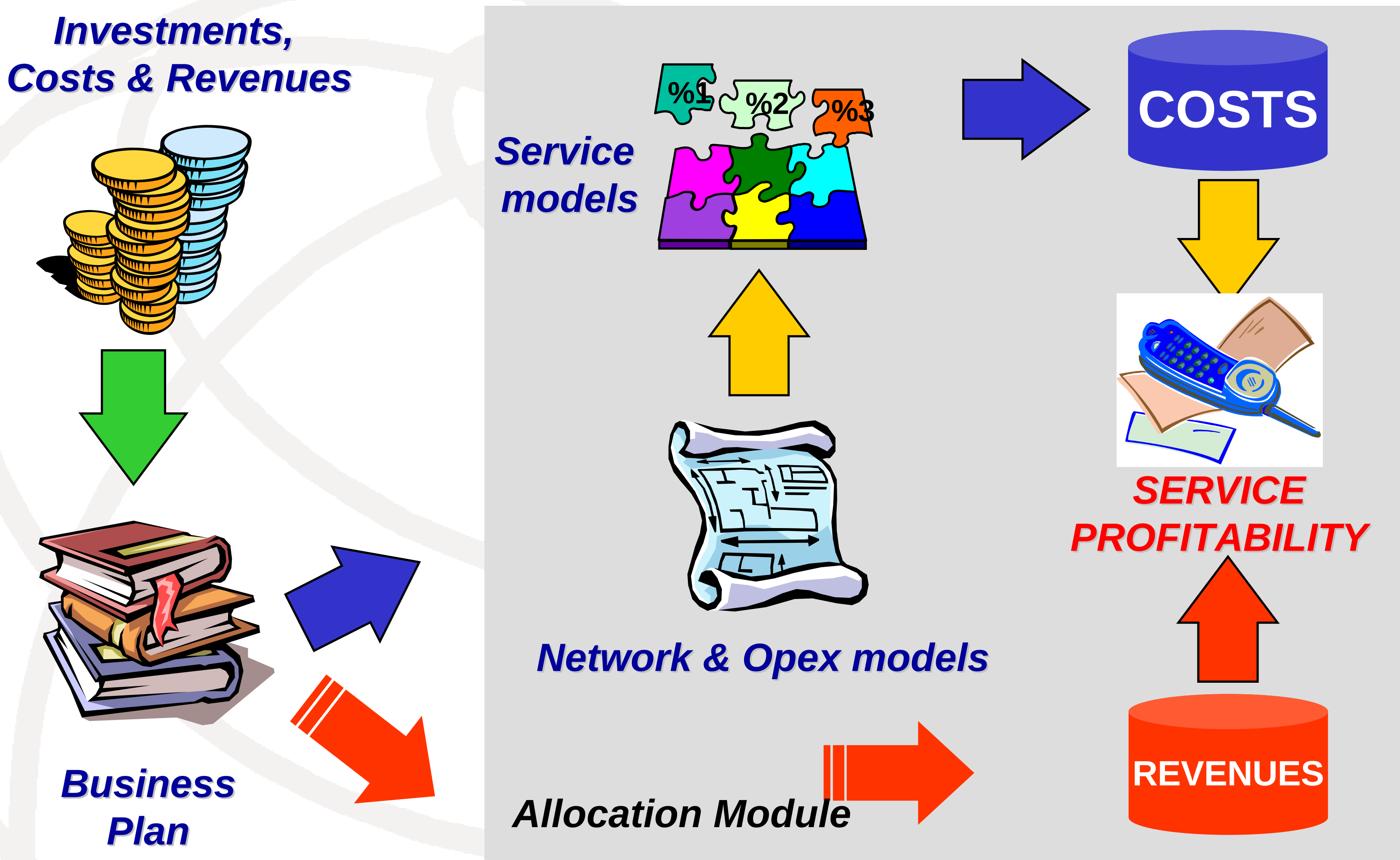
- → Fixed Access
- → Wireless Access (WiMax)
- → Metro - Backbone
- → VAS Platforms (i.e. IPTV)

**6. ATTRIBUTION MODEL**

**Profitability per Service**

**5. Business Plan (NGN Profitability, C/F, NPV, DCF)**

# Profitability Analysis- General Approach



# 2009-2010 Project activities organisation (under definition)

## Summary of the Project Tasks

**1**

- *Assess of Telkom Indonesia Marketing Scenario, Caring Model , IT & Network implementation plan, Processes and Methodologies and Organization*
- *Telcom Italia benchmarking and best practices new business approaches*
- *Point of attention, issues and recommendations*

**2**

- *Benchmarking of Business model options for Telco entering in new markets*
- *Analysis of Telkom Indonesia business strategy*

*Selection of the business models for the new based services*

**3.1**

- *Blue print on IT platforms*

**3.2**

- *Blue Print on Business processes*

**3.3**

- *Blue Print on Customer Care and CRM*

**3.4**

- *Blue Print on Organization and HR competences*

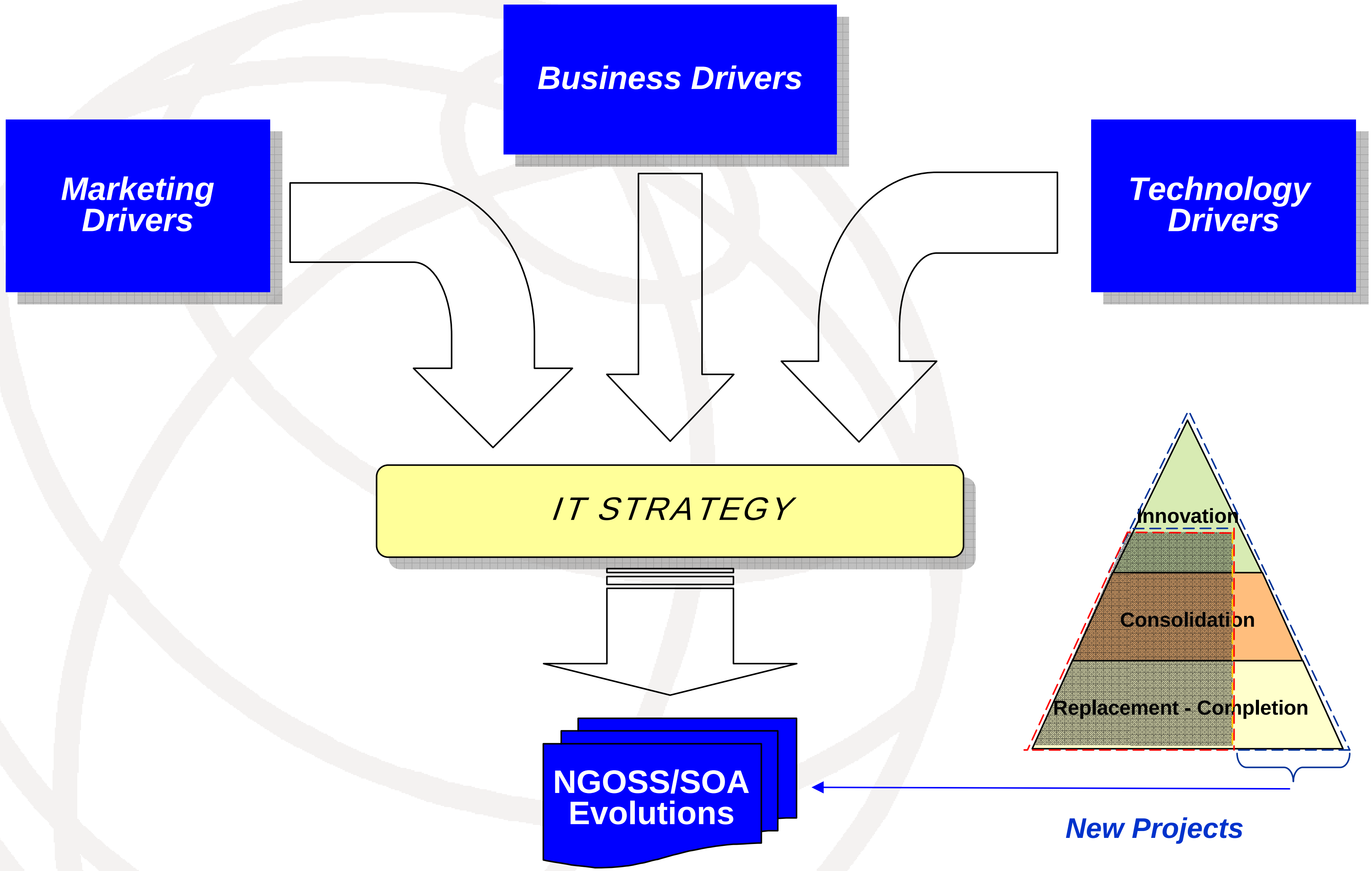
**4**

- *On job training for Telkom resources*

**5**

- *Follow the CM and BPR implementation and monitor the results*

## Drivers of Consultant Project in NGN Evolution for TWM (Taiwan)



# NGN Evolution for TWM (Taiwan)

**Kick-off**

**Assessment**

| Analysis of existing infrastructures & equipment | Analysis of existing OSS | Definition of the customers/services evolution scenario (2009-2015) |
| --- | --- | --- |

**Target architecture definition & Gap analysis**

**Training Modules**

- M1: TI NGN design strategy and methodology for OSS
- M2: TI OPB/OPM field operation & manag. exp.
- M3: Optical backbone techn.
- M4: Traffic analysis method.
- M5: TI NGN planning strategy & methodology

**On Job Training and TWM Network planning**

**NGN Network Planning & Capex/Opex evaluation**

| Network infrastructure: | OSS infrastructure: |
| --- | --- |
| • FO transmission net<br>• Packet Transport net | • Migration strategy |

**NGN Roll-out (short/mid/long term)**

**Final deliverable preparation & Results presentation**

# NGN Evolution Project for TWM Results

Taking into account the needs for TWM of:

- renewal transport network
- exploit Fixed-Mobile Convergent (FMC) Architecture both for the network and for its management
- saving deployment and operational costs for TWM

the Consultancy Project results are:

- Evolution plan for convergent transport networks (in particular Metro infrastructure) and a coherent plan for CAPEX/OPEX in the timeframe of the next 7 years.

In parallel

- Evolution plan for OSS architecture according the principles of NGOSS and SOA

# TI – EVNT collaboration towards 3G license

- TI – EVNT collaboration started on end 2007, with the signature of an consultancy agreement to support EVNT during the forthcoming 3G bid process
- TI set-up a project team with very experienced resources to support EVNT, on business plan, marketing plan and technical plan preparation
- Project development was as follows:
  - First joint working session (4 TI resources / 2 weeks) was performed in Hanoi during December 2007. Project was then “frozen” due to delay in tender issuing by MIC
  - Contacts were kept alive during all year 2008, to support EVNT on specific requests (e.g. MIC consultation)
  - After 3G tender issuing (November 2008), the consultancy project re-started heavily and new joint working session (4 TI resources / 2 weeks) was held in Hanoi on December 2008, where a comprehensive contribution to business plan, marketing plan and technical plan (including bid book direct contributions) was delivered
  - Final session was held on February 2009, to support the bid book delivery phase
- **On April 2009, 3G license was assigned to EVNT (jointly with HTC)**

**Viettel, VinaPhone, MobiFone, liên danh EVN-HT trúng tuyển 3G**

*15:27' 02/04/2009 (GMT+7)*

- Vào lúc 3h chiều nay (2/4/2009), Bộ Thông tin và Truyền thông (TT&TT) đã chính thức công bố tên của 4 nhà cung cấp dịch vụ viễn thông trúng tuyển 3G gồm: Viettel, VinaPhone, MobiFone và cuối cùng là liên danh giữa EVN Telecom và Hanoi Telecom.

# Questions?

# Thank You!
# Terima kasih!