

“Fixed mobile convergence for an integrated operator: a techno-economic study”

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Contributors Partners in ECOSYS project





Objectives

- ❑ To study the fixed-mobile convergence (FMC) of services and networks
- ❑ To develop migration scenarios for different players in the FMC ecosystem.
- ❑ To support the regulatory decisions on fixed-mobile convergence



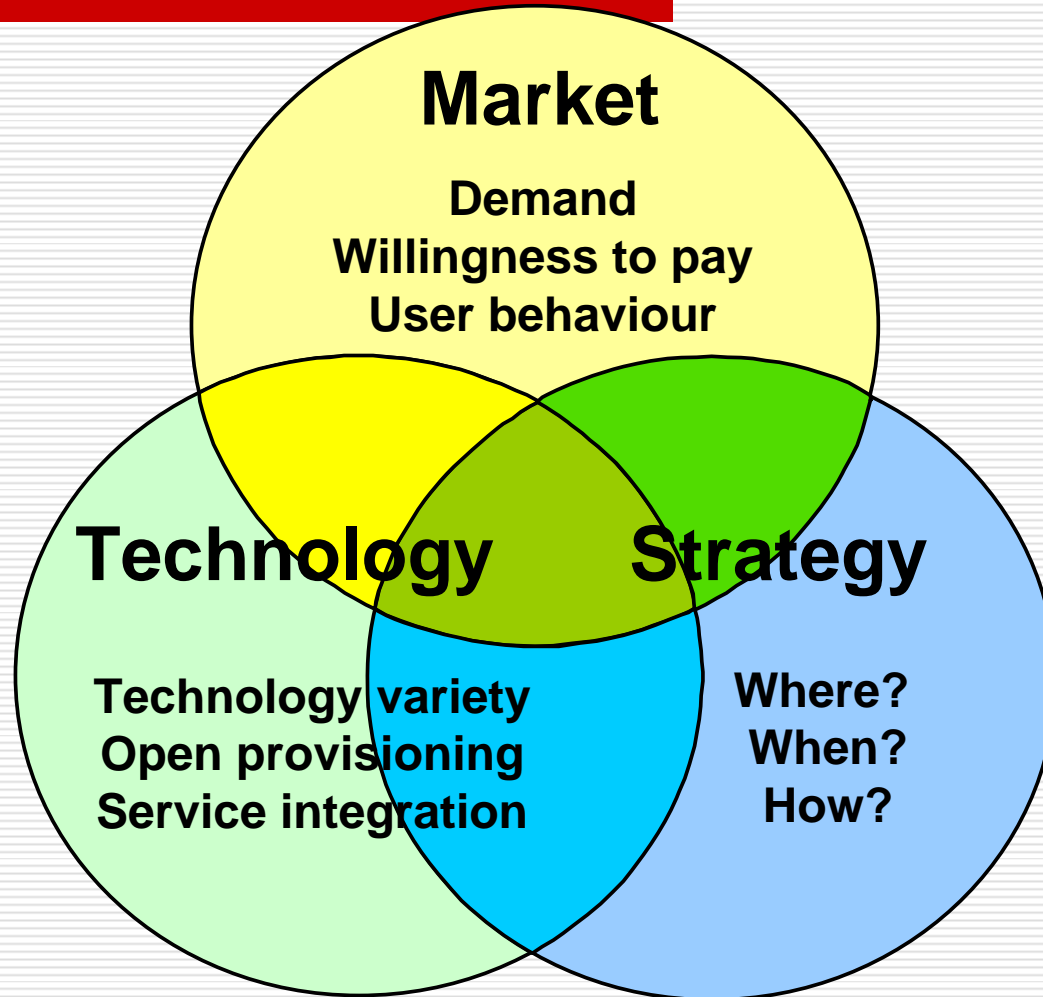


Approach

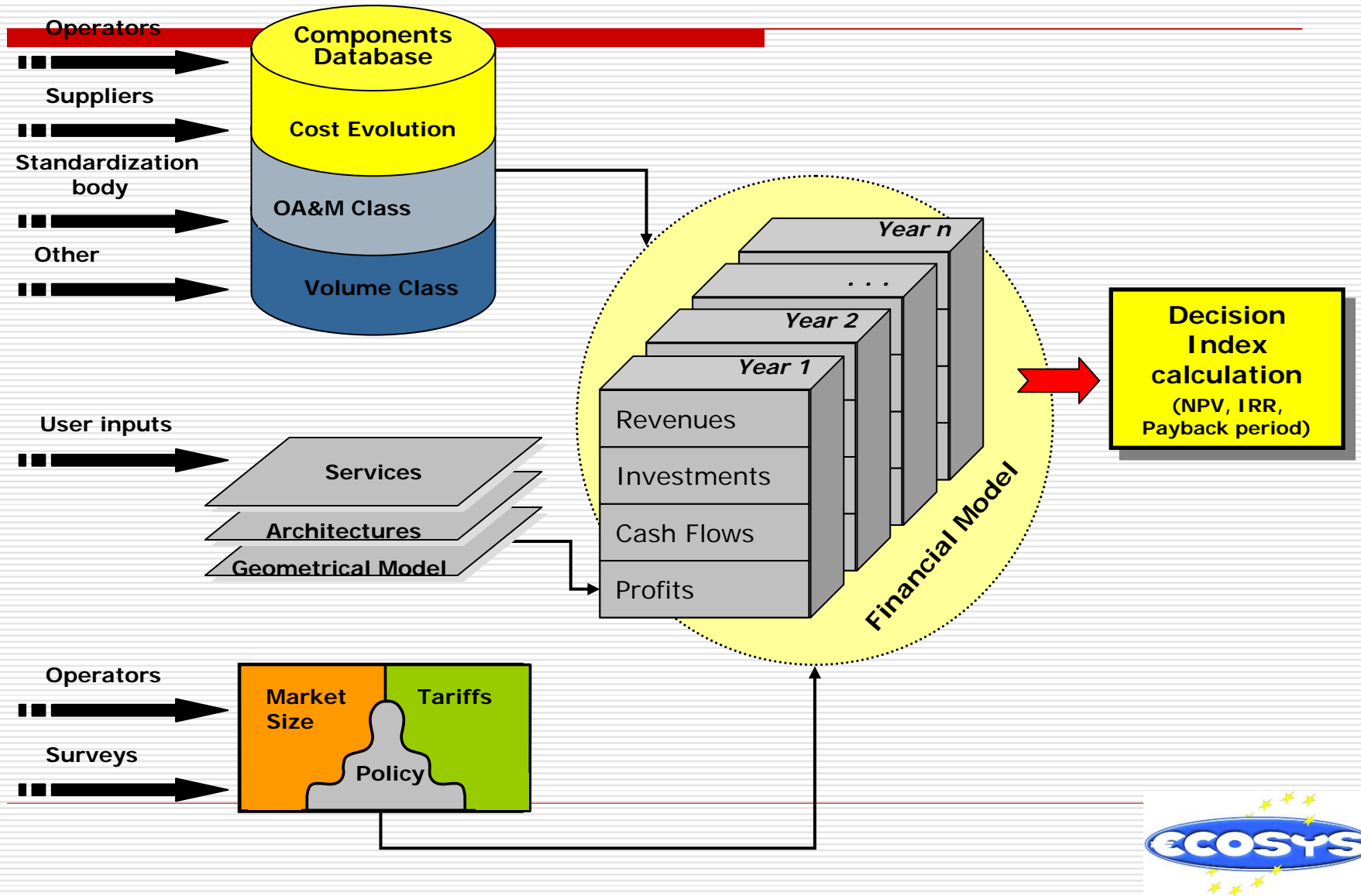
- Definition of the concept of FMC
- Identification of the key players in the FMC ecosystem
- Identification of the key drivers for FMC adoption by different players in the FMC ecosystem.
- Quantitative modelling of the FMC migration scenarios for two players:
 - Integrated operator in a large western European market.
 - Pure play mobile operator in an emerging market.



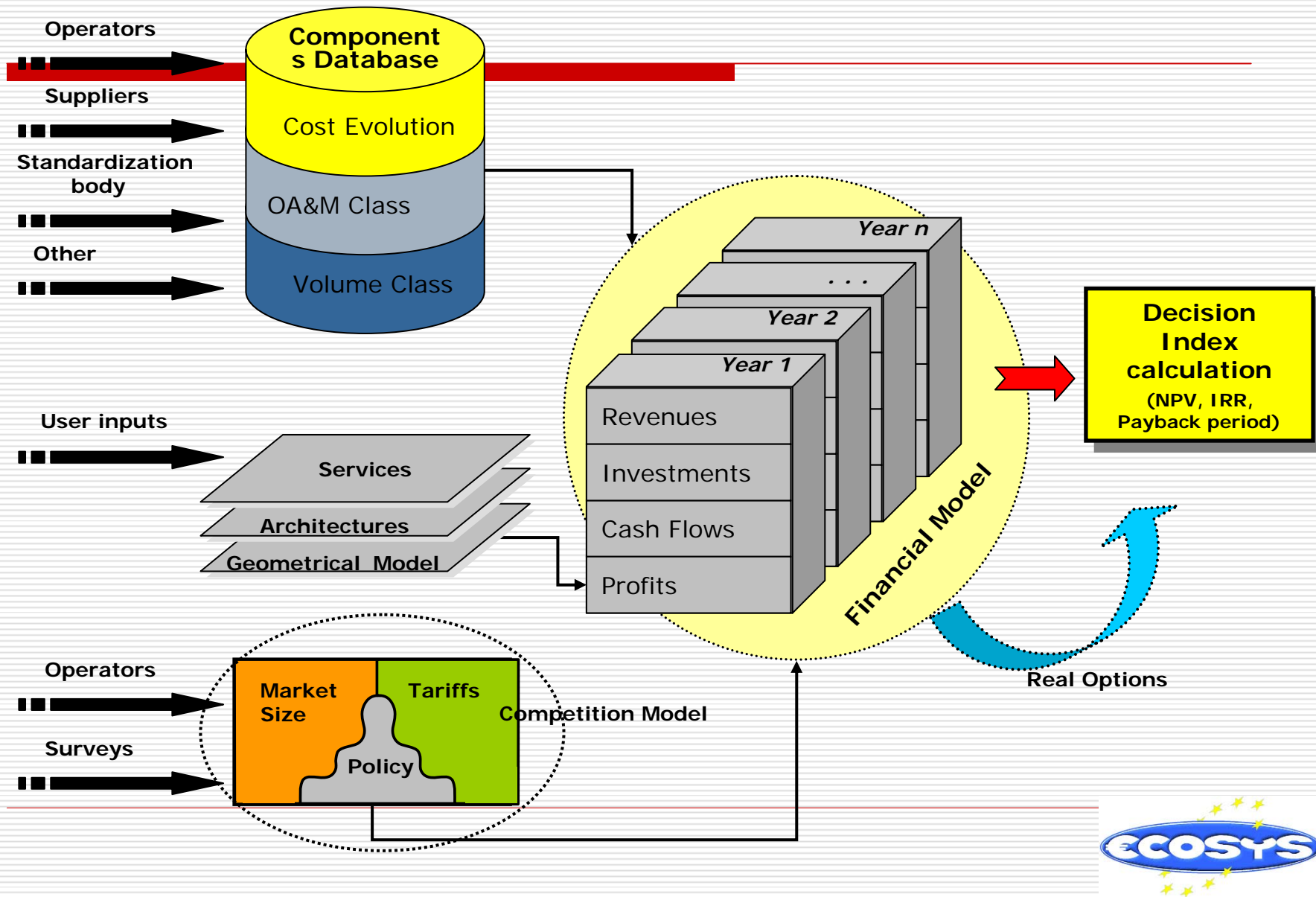
The motivation for technoeconomic evaluation



ECOSYS/TONIC Tool - Methodology



ECOSYS/TONIC Tool - Methodology





Steps in Network Evaluation

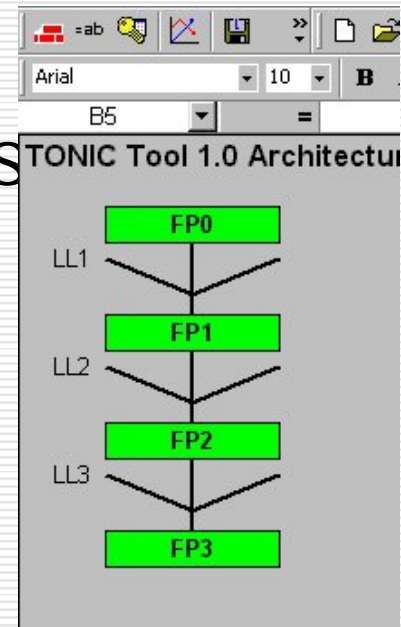
- Definition of service basket
- Network scenarios
- First Simulations – Main Financial results
- Sensitivity and Risk Analysis
- Evaluation Recommendation and Guidelines



The Tool

- Based on Office 2003 platform
 - Excel & Access
- Automatic sensitivity analysis
- Compatibility with Risk Analysis Tool(s)

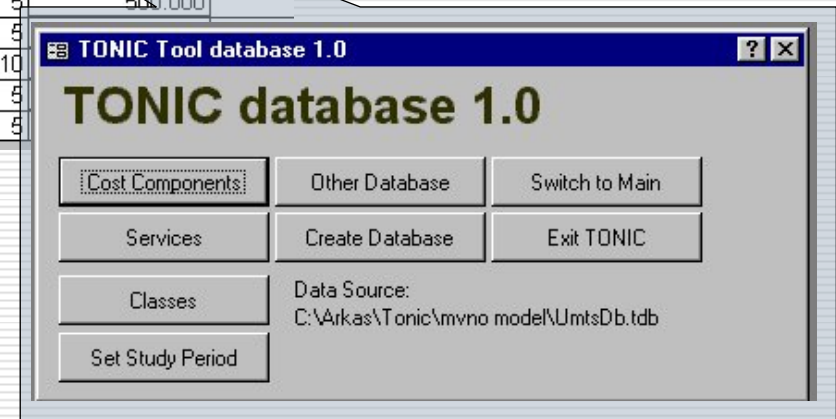
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9	UseCustomFormulas	No	No
10	ExpertMode	Yes	No





The tool & its database

Component	Auto Update	Level	ItemType	M Rate	M Hours	WriteOff	ReferencePrice	Referen
GPRS_and_UMTS_DNS	1	FP1	Material/Electronics	0,08	0	5	15.000	
GPRS_and_UMTS_Firewall	1	FP1	Material/Electronics	0,08	0	5	70.000	
GPRS_Charging_gw	1	FP1	Material/Electronics	0,08	0	5	380.000	
Middleware	1	FP1	Material/Electronics	0,05	0	5	15	
UMTS_Billing_system	1	FP1	Material/Electronics	0,05	0	5	6.000.000	
UMTS_Call_Processing_Serv	1	FP1	Material/Electronics	0,05	0	5	2.000.000	
UMTS_HSS	1	FP1	Material/Electronics	0,05	0	5	2.000.000	
UMTS_MediaGateway_circuit	1	FP1	Material/Electronics	0,05	0	5	600.000	
UMTS_MediaGateway_ip_mu	1	FP1	Material/Electronics	0,05	0	5	2.100.000	
UMTS_MSC_Server	1	FP1	Material/Electronics	0,05	0	5	1.800.000	
UMTS_MSC_upgrade	1	FP1	Material/Electronics	0,05	0	10	200.000	
UMTS_OMC	1	FP1	Material/Electronics	0,08	0	10	7.000.000	
Authentication Server	1	FP0	Material/Electronics	0,05	0	5	580.000	
GPRS_and_UMTS_GGSN_S	1	FP0	Material/Electronics	0,08	0	5		
UMTS_CAMEL_Server	1	FP0	Material/Electronics	0,08	0	10		
UMTS_GMSC_Server	1	FP0	Material/Electronics	0,08	0	5		
UMTS_HLR/AuC	1	FP0	Material/Electronics	0,08	0	5		





Main Financial Results

- Net Present Value, NPV
- Internal Rate of Return, IRR
- Payback Period
- Financial indicators
 - Investments
 - Running Costs
 - Revenues
 - Cash Flows
 - Depreciation
 - Profits
 - Taxes
 - Retained Cash Flows
 - Cash Balance
 - Rest Value





Integrated operator (scenario description)

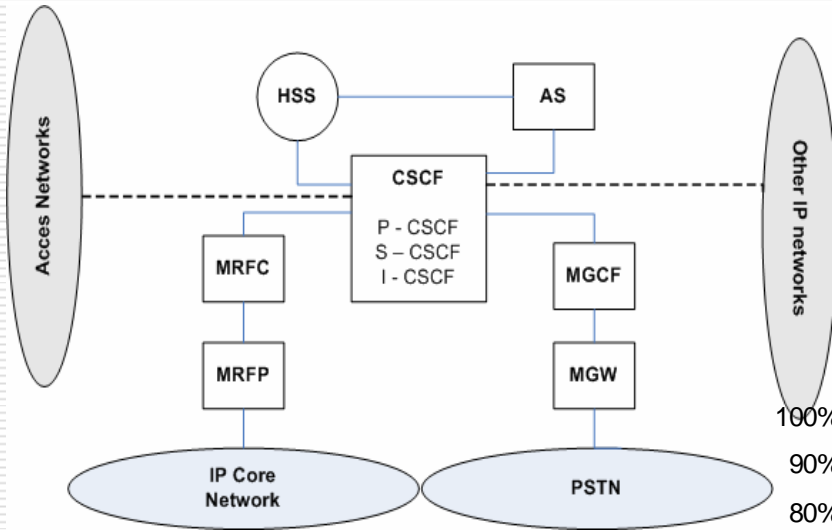
- Operator owns already both 3G mobile and fixed networks
- Reasons for the FMC
 - Reduce the OPEX costs
 - Retain the existing customers
 - Keep the revenues at least the same levels
- Gradually convergence through IMS (beginning 2007)→ finally an all IP network
- Only the differences (Delta) between the non-FMC and FMC case are considered
- Operator on a “Western” European country type (calculated average from France, Germany, Italy and UK)

Country Type	Large
Total population in 2005	65 200 000
Population growth	0,3% per year
Area of the country (km ²)	370 000

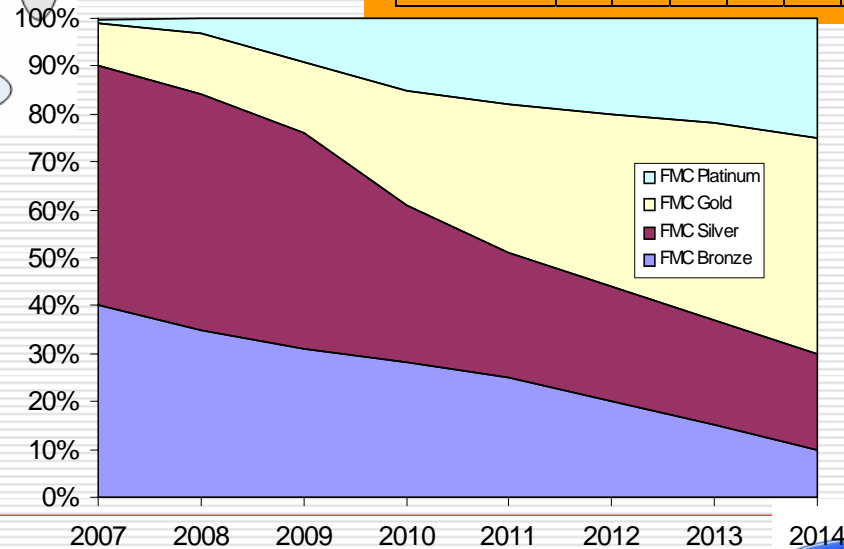




Integrated case (key assumptions)



	Services included					
	Fixed Voice	Fixed BB access	Mobile Voice	Mobile Data Access 1	Mobile Data Access 2	Mobile Data Access 3
FMC Bronze	X		X			
FMC Silver	X	X	X	X		
FMC Gold	X	X	X		X	
FMC Platinum	X	X	X			X





OPEX assumptions

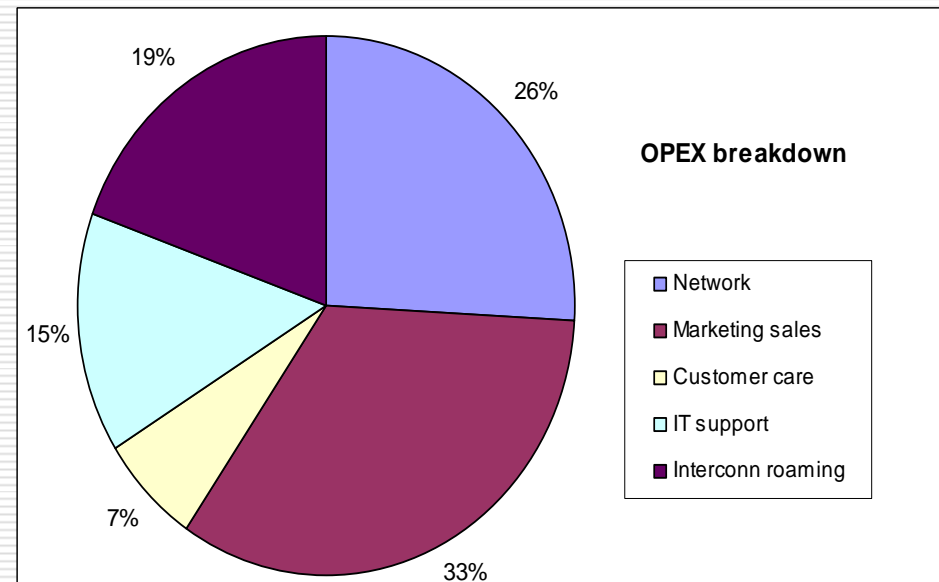
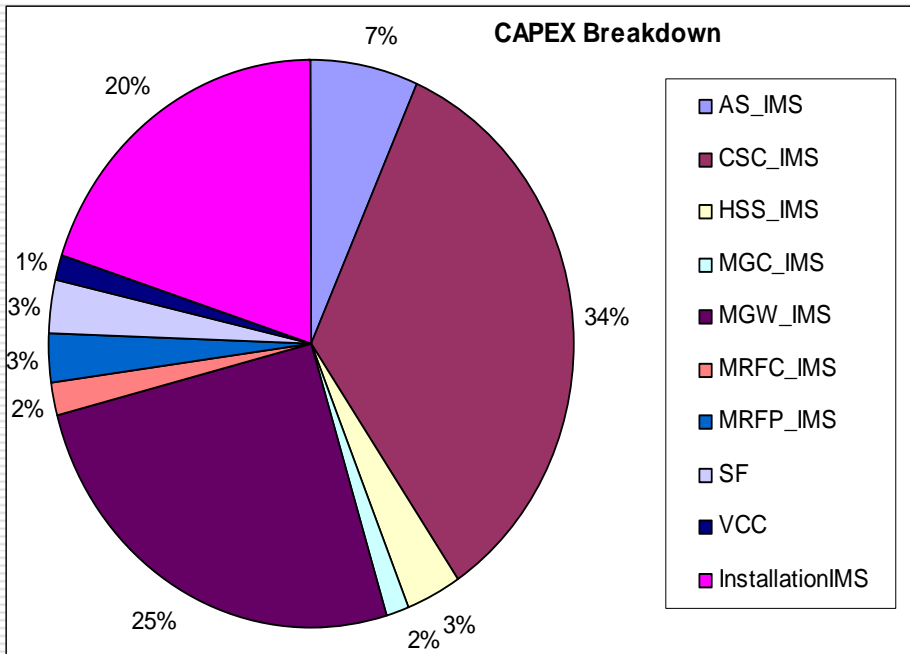
- ❑ **Network related elements:** (network operation, OSS operation, maintenance and repair of the network elements, equipment and software licenses, rental of network resources, costs for site rental and electricity)
- ❑ **Marketing and sales related elements:** (sales and marketing, customer acquisition and subsidisation)
- ❑ **Customer service related elements:** (customer care, charging, billing, call center)
- ❑ **IT, support and service development related elements:** (service management, design and development of new services, Business IT, management support, costs regarding to purchasing licenses for content delivery)
- ❑ **Interconnection and roaming costs:** (termination fees for calling or completing a call or a session originated or terminated in another network)

OPEX category	Mobile operator	Fixed Operator	FMC operator
Network	20%	25%	25%
Marketing and sales	26%	30%	35%
Customer care	8%	10%	7%
IT, support and service	11%	15%	15%
Interconnection and roaming	35%	20%	18%





CAPEX - OPEX Breakdown



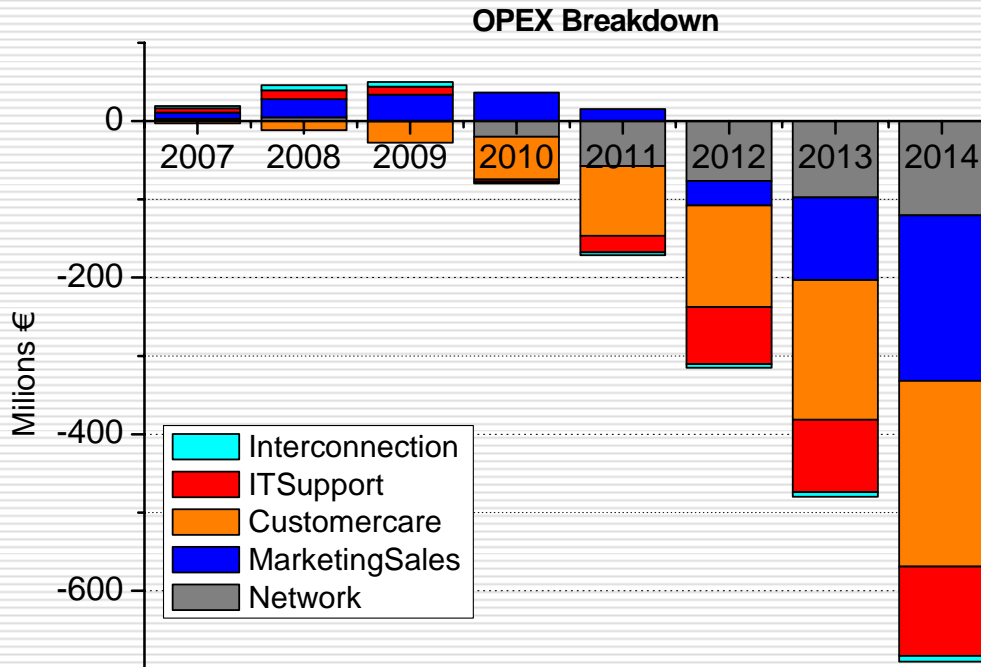
Almost 60% of the total amount is for the CSC and MGW elements of IMS, while the installation of IMS is 20%

The major contributors are the Marketing and sales (33%) and Network (26%)





Integrated case (OPEX)



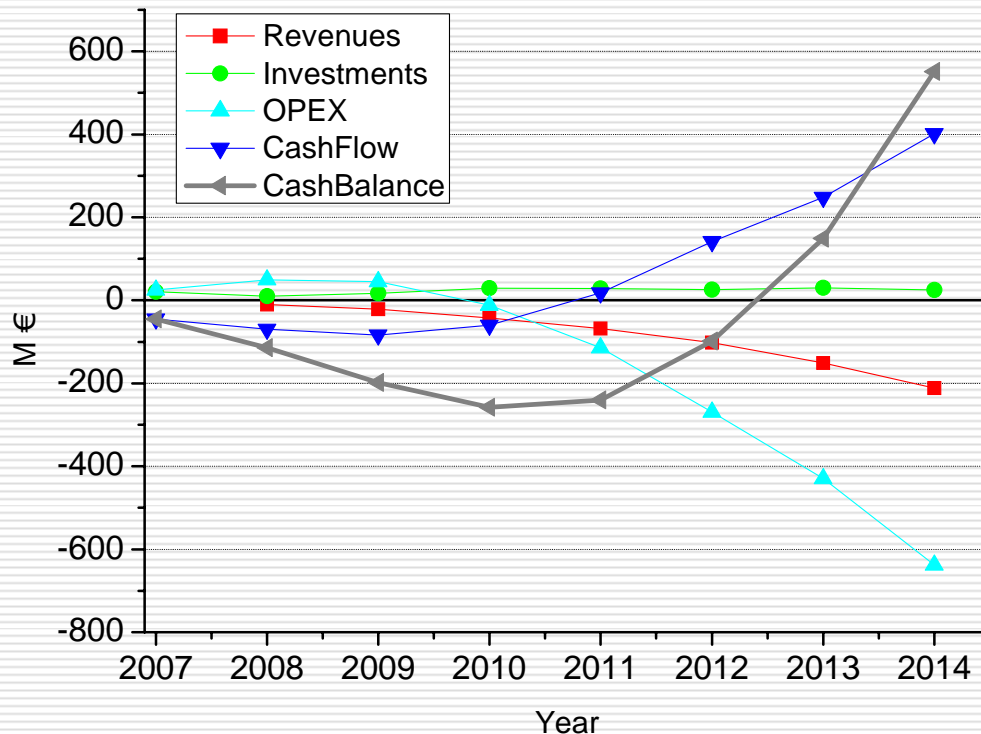
The operator will actually reduce its OPEX compared to the non-FMC situation (negative values).

Delta OPEX = New (FMC)
OPEX – Old OPEX



Financial Results

Economic Results (FMC)



- Figure shows the differences between FMC and not FMC cases (results are clearly positive in relative terms)

- Increased OPEX the first years but OPEX savings near 700 M€ in 2014 (almost 7% of the total yearly OPEX of the operator)

- Slight revenue degradation because of price reductions in the bundles provided

- If not FMC loss in his market share that will decrease revenues and cash balance

Delta Revenues = New Number of FMC subscribers * (New ARPU – Old ARPU)

Delta OPEX = New OPEX – Old OPEX

Investments = Investments IMS+ Investments Hotspots





Summary

- ❑ Each operator has to make decisions on this migration based on its existing characteristics. Therefore, there is no single convergence solution that fits all the players
- ❑ An integrated operator will have stronger motivations for beginning the FMC than those operators only owning fixed or mobile networks.
- ❑ The new FMC services will be the mean to keep the current market shares and even increase them in order to maintain the revenues.
- ❑ In the FMC case the operator faces increased OPEX the first years but achieves significant savings in the last years of the study period.
- ❑ If the operator does not invest in FMC it will eventually start experiencing a loss in his market share that will decrease its revenues and cash balance.
- ❑ An Integrated FMC operator can keep the customer base, and almost keep the revenues, but save in the long run in OPEX, and thus make a reasonable business case.





Time for Questions & Answers



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