

Application of Advanced Analytical Techniques in Support of Socio-economic Impact Assessment of Innovation Funding Programmes

FI-IMPACT Future Internet Impact Assurance

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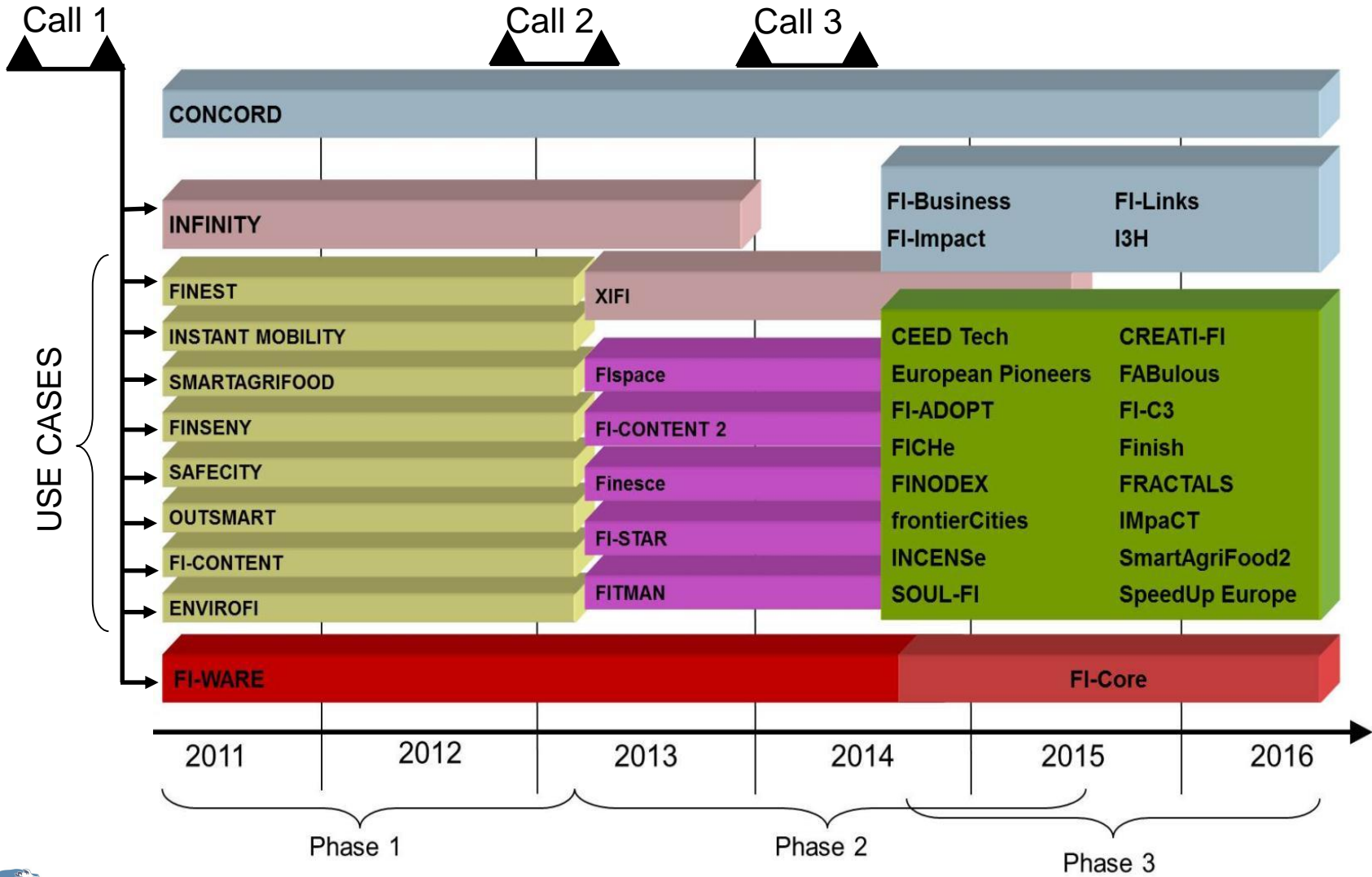


SIKDD 2016, 10.10.2016, Ljubljana, Slovenia

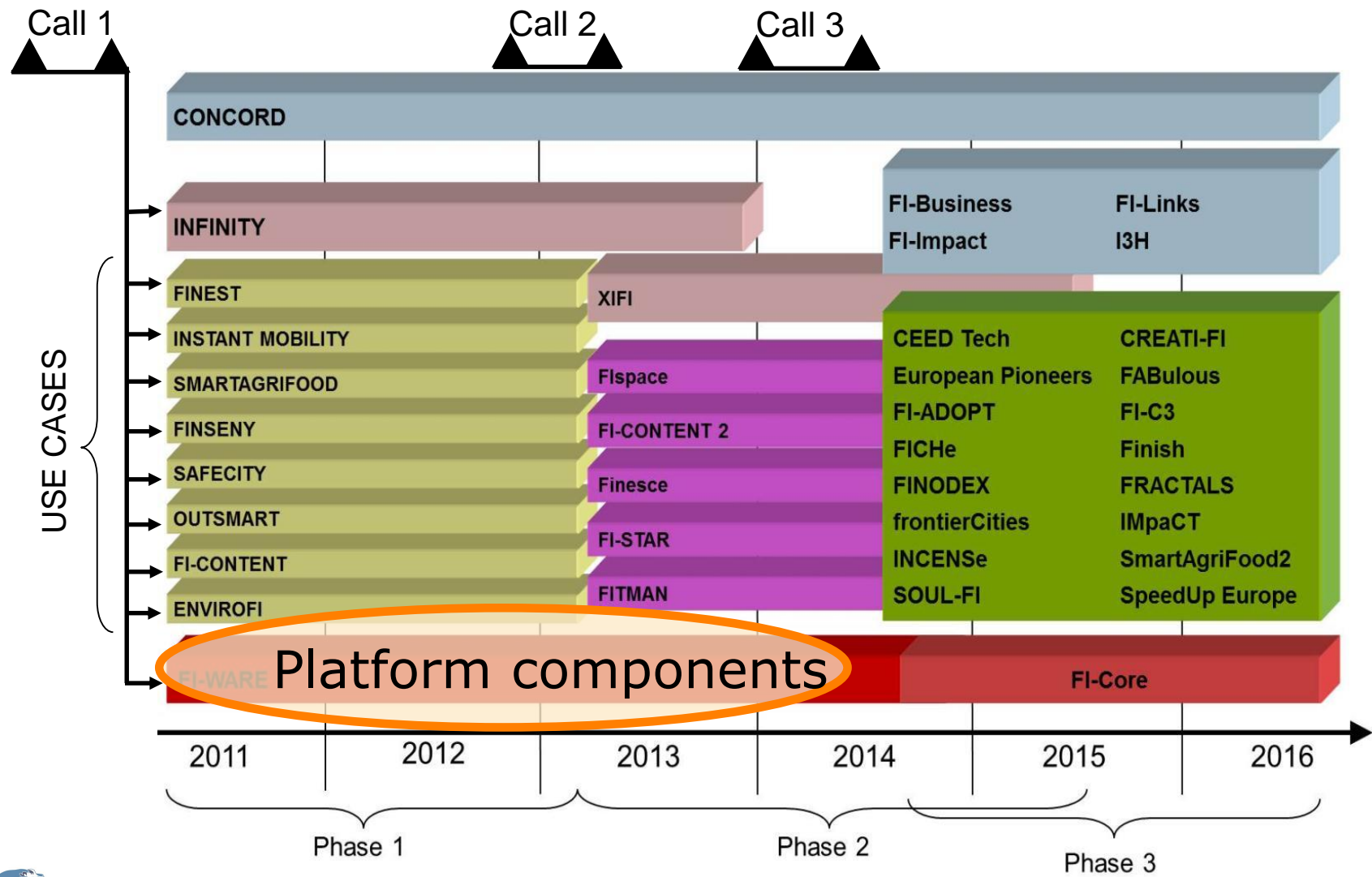
Overview

- Setting the scene
 - Future Internet PPP
 - FI-IMPACT project
 - IT support to FI-IMPACT
- Data collection
- Impact assessment tools (reporting/benchmarking)
- “Best practices” identification
- Conclusion

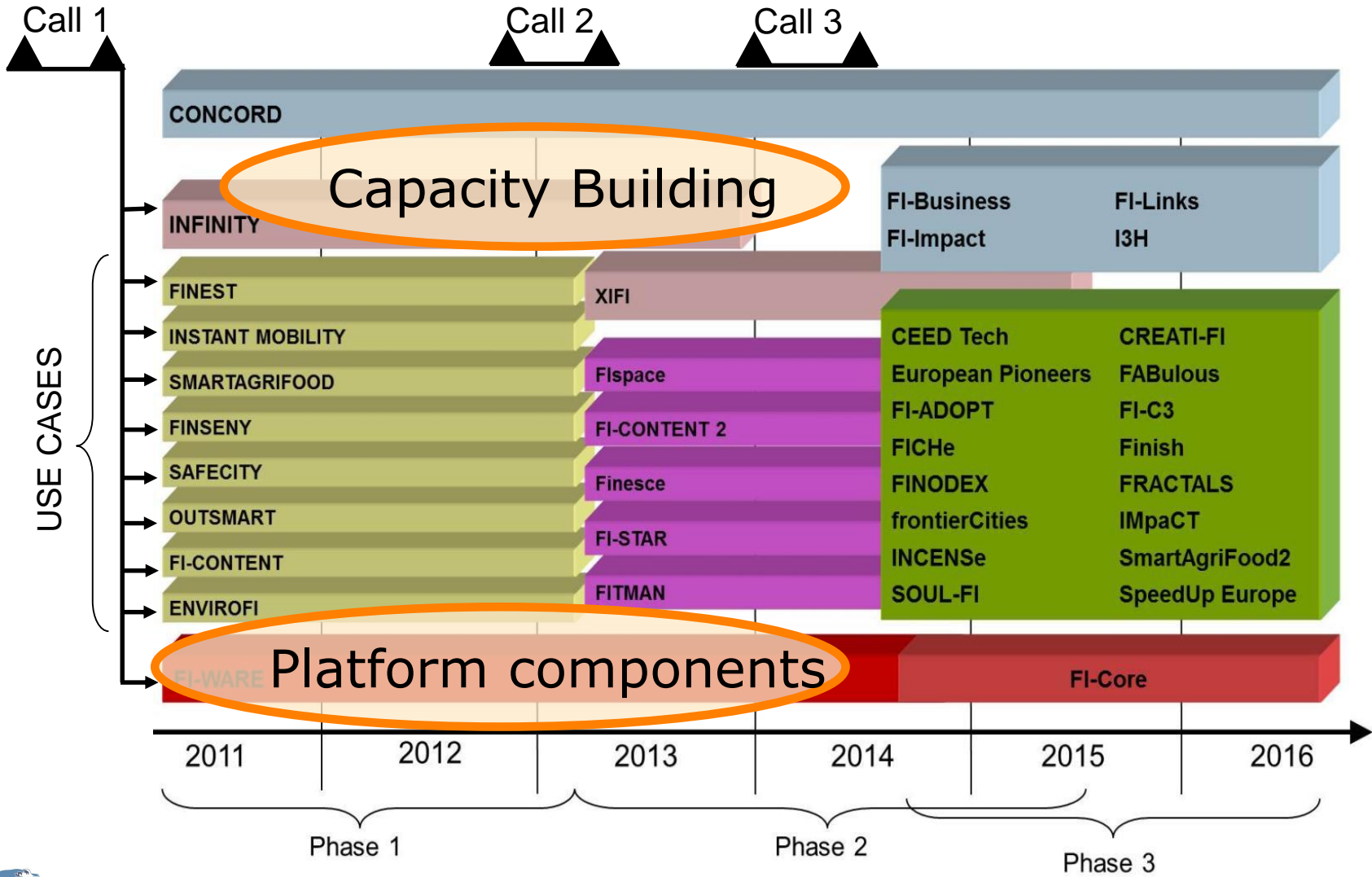
FI-PPP Today



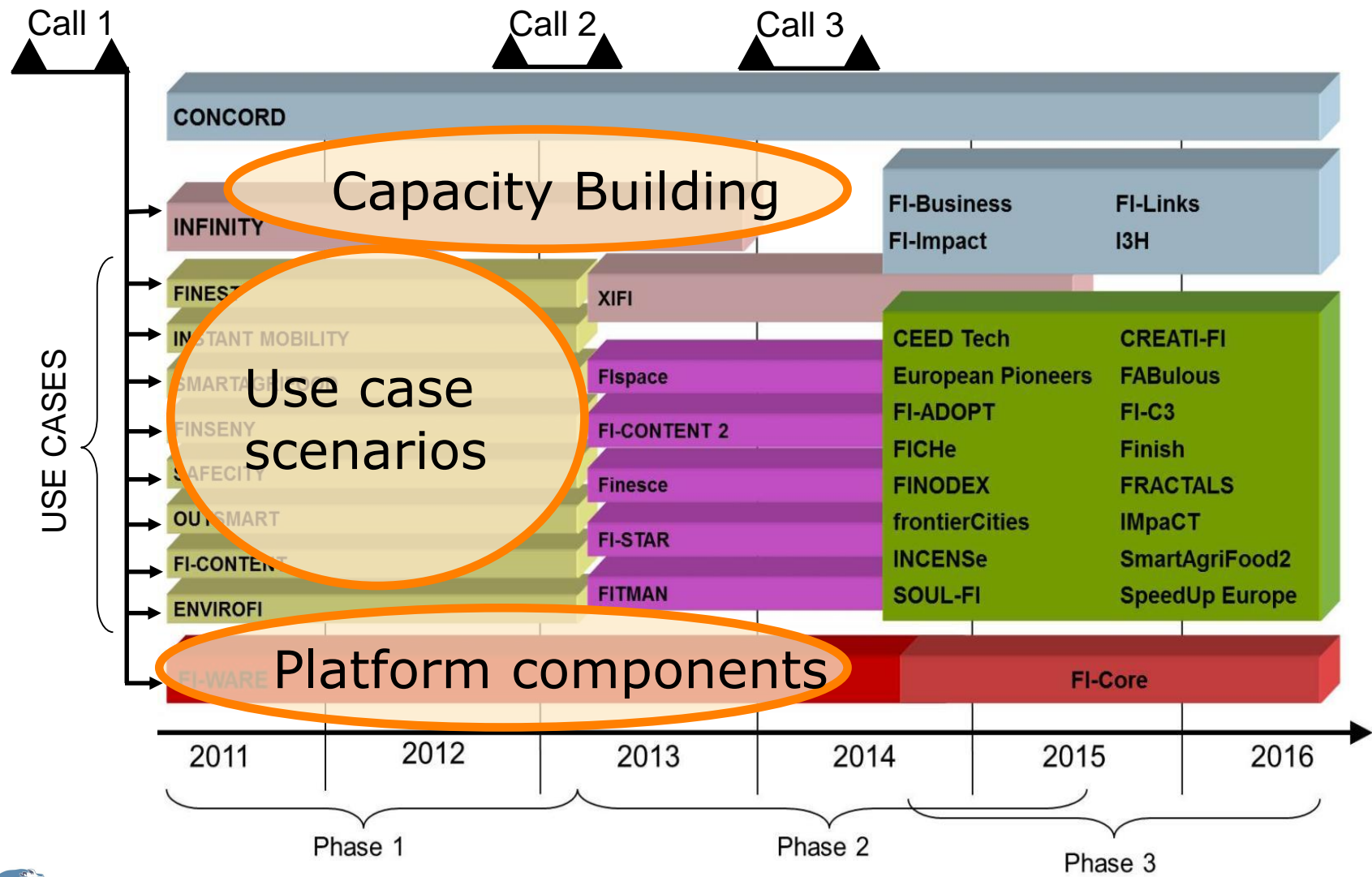
FI-PPP Today



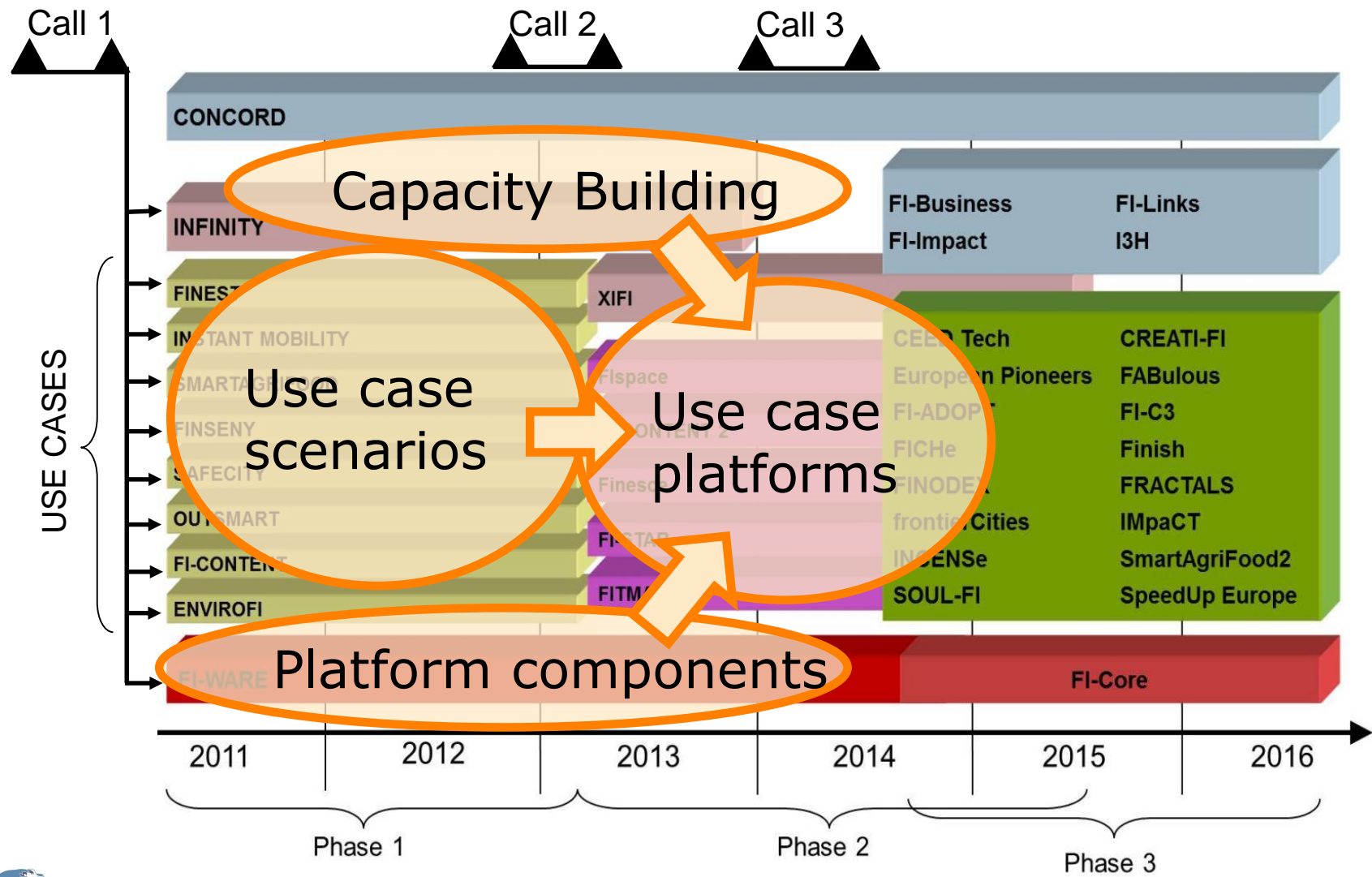
FI-PPP Today



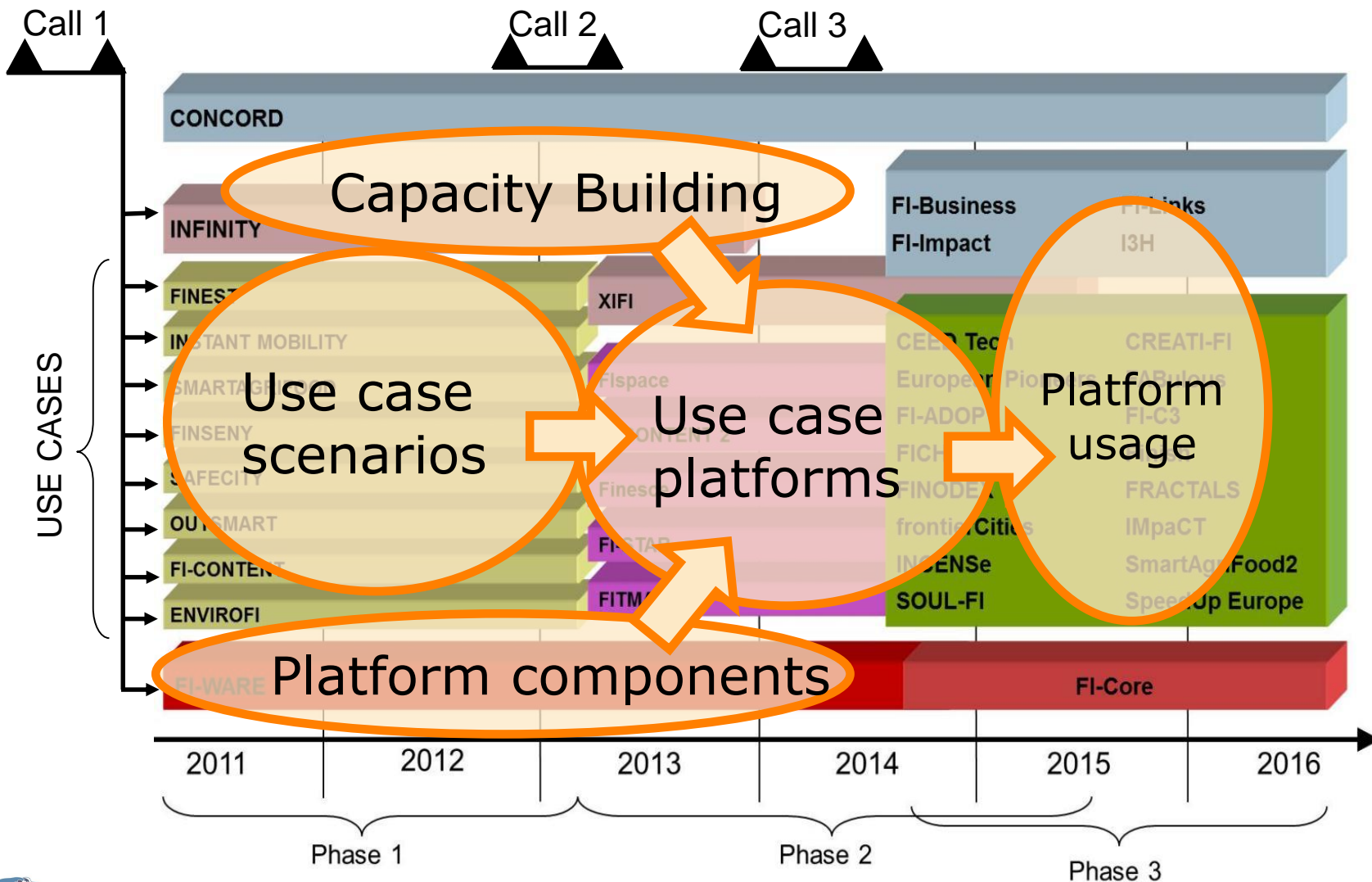
FI-PPP Today



FI-PPP Today



FI-PPP Today



Phase three structure

European Commission
(funding)

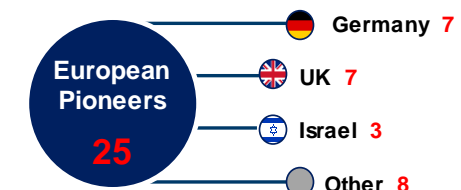
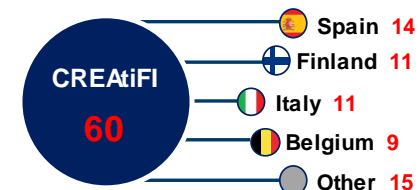
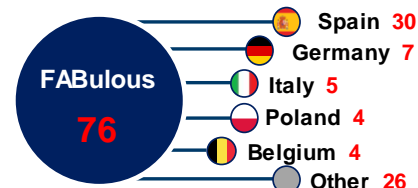
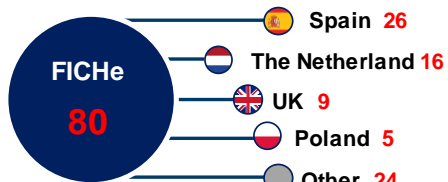
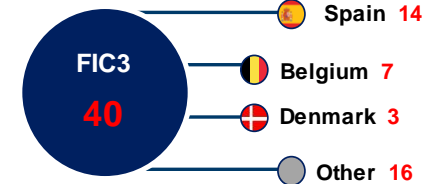
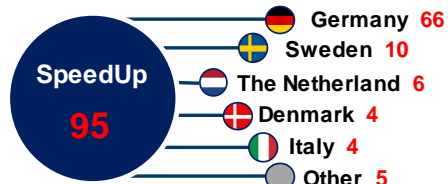
16 accelerators
“Accelerator” is a consortium of project partners funded by the European Commission with the objective to provide funds and resources to initiatives (companies) using FIWARE technology. Each accelerator funds its own initiatives.

FI-IMPACT
Measure socio-economic impact through measuring and projecting economic potential, take-up and technological impact

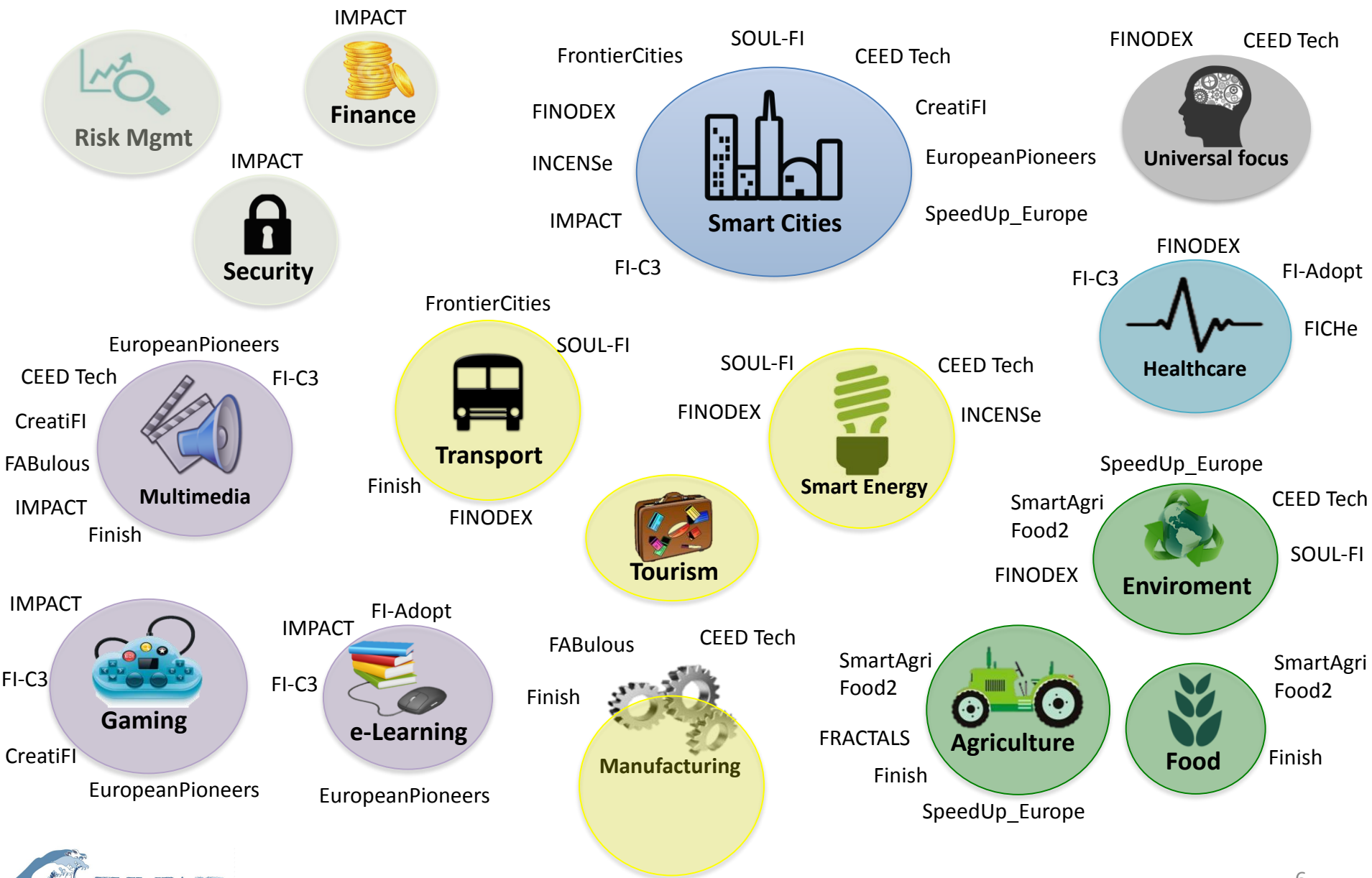
EuropeanPioneers, IMpaCT, CreatiFi, CEED Tech, FICHe, SpeedUp_Europe, INCENSE, FRACTALS, SOUL-FI, FI-Adopt, FI-C3, FABulous, FINODEX, Finish, FrontierCities, SmartAgriFood2

~1000 sub-grantees
Selected and funded by an accelerators

Accelerators Coverage



Sectors covered by Accelerators



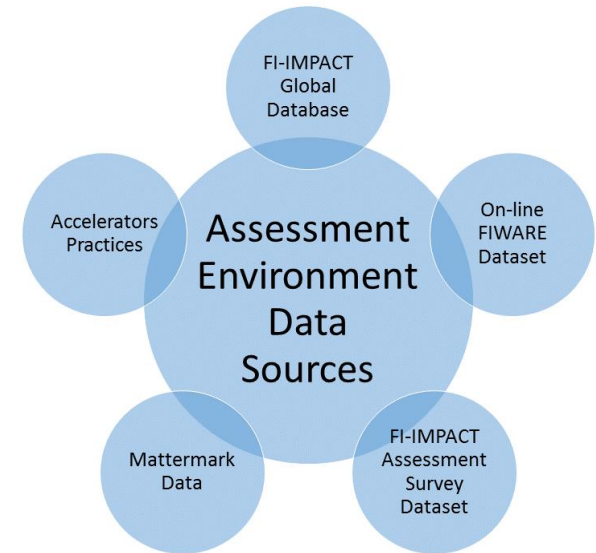
Data Collection

Created Detailed Survey

Preregistered sub grantee users

Prefilled known data

Sent (token) to users



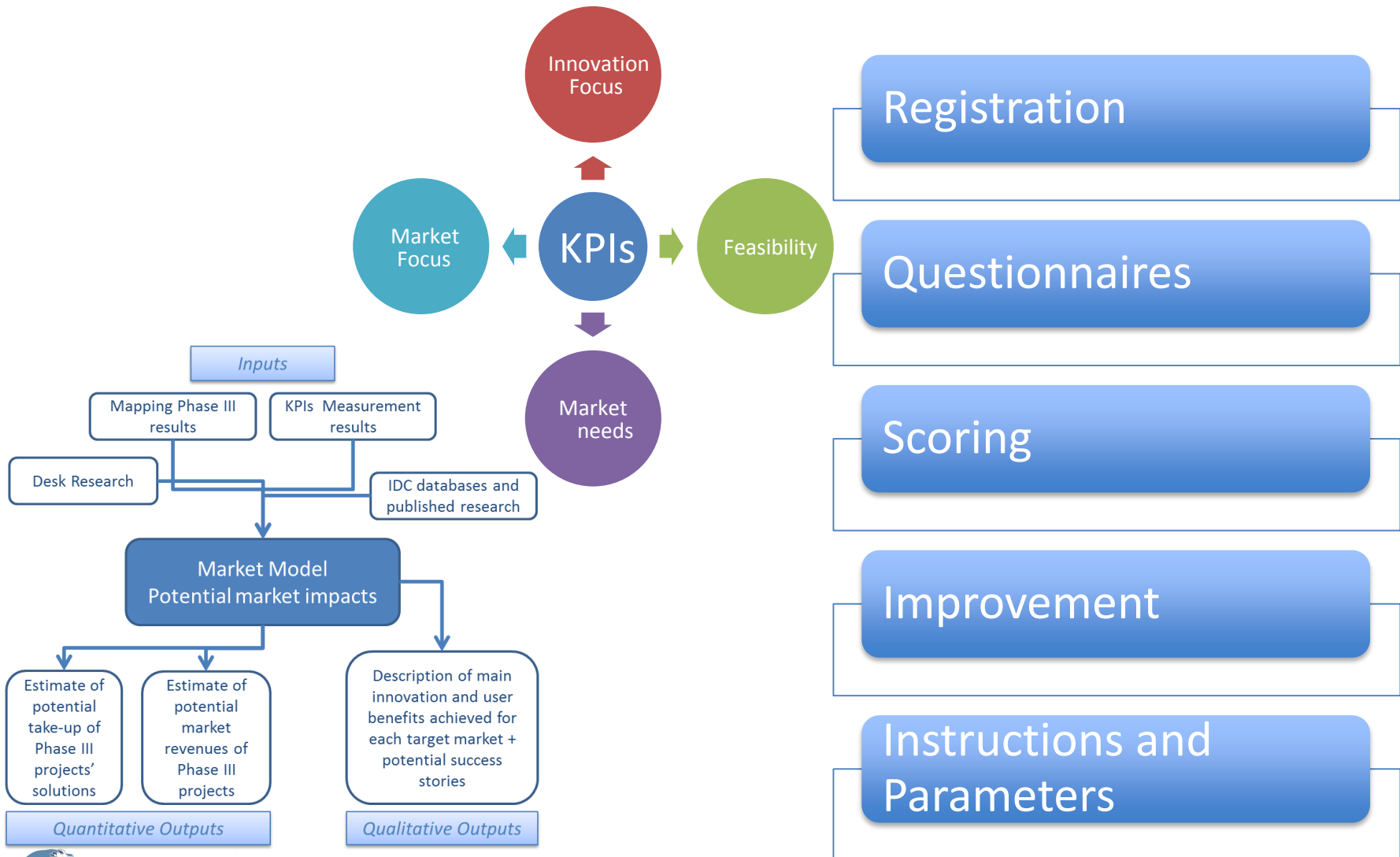
Sub-Grantee Survey

Calculate Key Performance Indicators

Merge external indicators (Mattermark)

Reporting and Analysis

Impact Assessment (Key Performance Indicators)



Impact Assessment Tool - reporting

INNOVATION

The Innovation indicator expresses the level of originality, maturity and sustainability of innovation to a product or service in an organization's go to market strategy. The single measures are used to create the innovation indicator but are also used in the calculation of Market Attractiveness and Feasibility Indicators. Several conditions affect the innovation Indicator. An innovative product or service can make a significant Impact in the market if you are ready to implement it, but can conceal substantial engineering, business planning, development, testing and marketing effort if the product or service is still in the planning phases. If the innovation is being developed and validated among colleagues and potential clients the innovation's real market potential is increased. Innovation is quite healthy in organizations if it is part of a strategy but can be quite resource consuming where stand-alone.



Your ranking for innovation based on the data submitted is currently Medium. In this section you scored better than 29% of the 678 (total) projects and proposals that have answered this survey. The level of innovation of your project matches that of your peers. Still, you should consider ways of further strengthening the innovation element of your project.

Please visit the FI-IMPACT Library to access reading material that may be useful

FEASIBILITY

The Feasibility indicator assesses to what extent you have assessed the economic viability of your business, and if you have already provided for the necessary funds for the startup phase. This indicator assesses whether you are aware of the funds required to start and grow your business, and whether you have secured sources for these funds.



Your ranking for feasibility based on the data submitted is currently High. In this section you scored better than 94% of the 678 (total) projects and proposals that have answered this survey. Your project is outperforming your peers in terms of feasibility – congratulations.

Capital	Capital requirements covered until self-sustainable. Secured funding: 100%
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Growth rate	Sales: We are evaluating what the potential growth rate could be. Revenue (4 years): 55%, 46%, 25%, 18%
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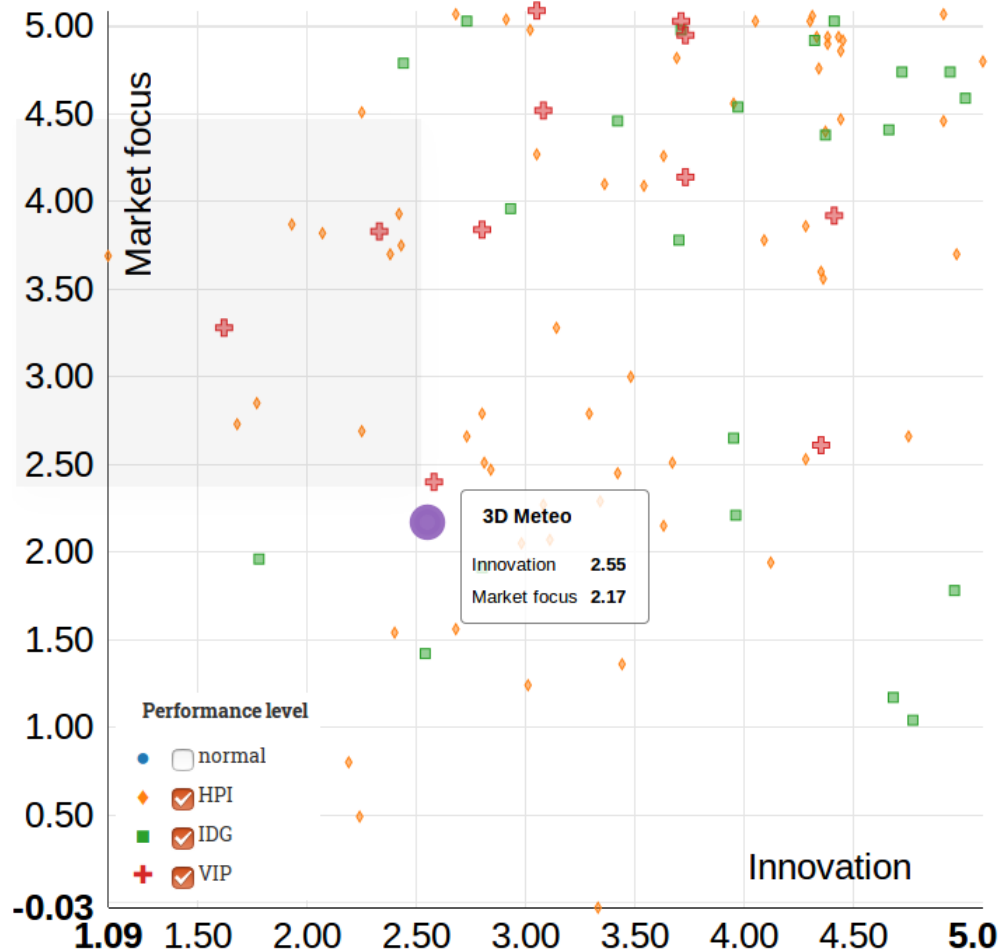
Customer acquisition	We have estimated customer acquisition cost and time.
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Sales and marketing expansion	We have defined scale-up plans but have not yet launched them.
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Impact Assessment Tool – benchmarking 1/2

Key Performance Indicators Benchmarking

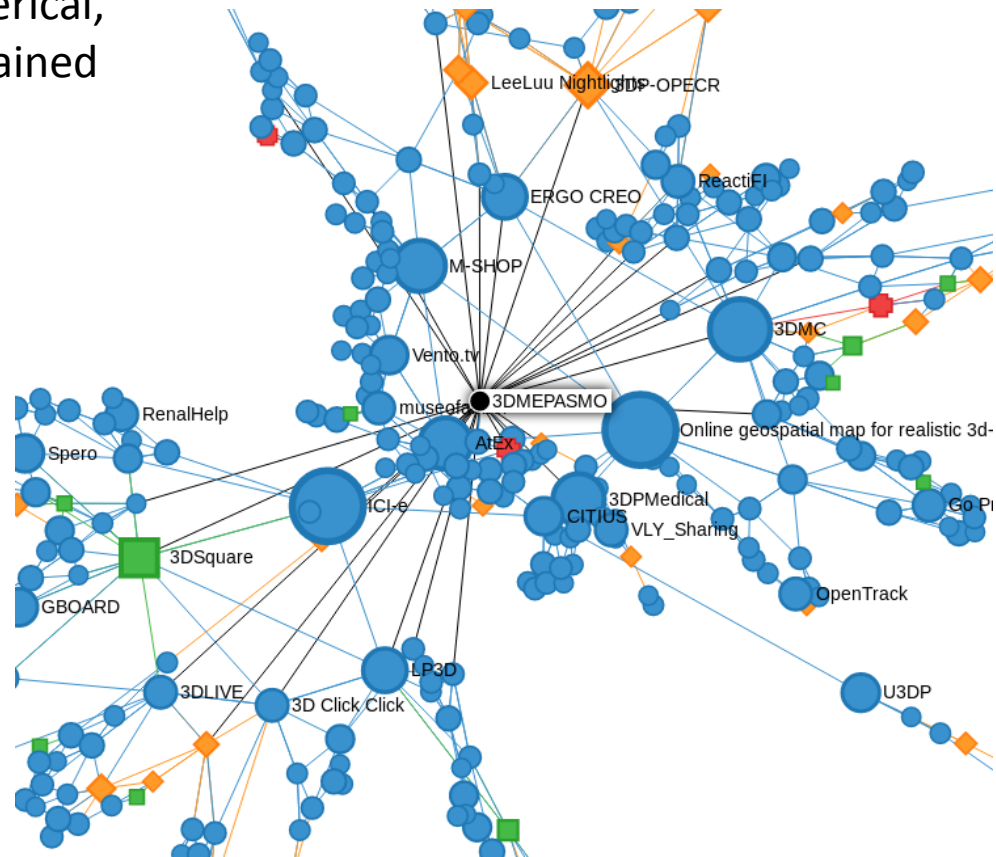
This dynamic benchmarking against other respondents gives entrepreneurs and their mentors a tool to monitor progress and identify areas where additional support is required.



Multi-attribute Based Similarity Tool

In this tool, similarities among projects are determined using a wide range of attributes that describe projects.

The feature-set consists of numerical, categorical and textual data obtained from questionnaires.



Accelerator Benchmarking - Methodology & Approach

Accelerators' Indicators

Quantitative:

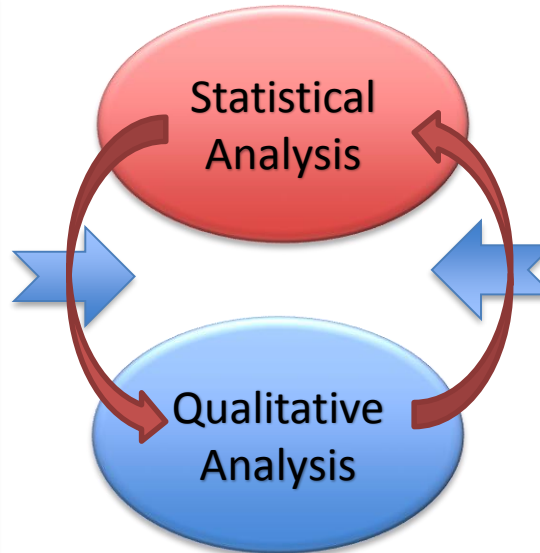
- Profile and partnership (8)
- Funding Indicators (4)

Binary:

- Evaluation and selection practices (2)
- Acceleration and Support Practices (9)

FI-IMPACT
Global
Database

Interviews
with A16
Coordinators



Sub-Grantees Performance Indicators

- KPIs
 - ✓ Market Focus
 - ✓ Innovation
 - ✓ Feasibility
 - ✓ Market Needs
- Mattermark Growth score
- FIWARE Technical score
- Additional Funding Indicator

Accelerator Benchmarking - Best Practices Reporting Tools

How does it work?

Subgrantee & Accelerator Data Sources

- JSI Export Full
- FIWARE Usage Assessment Score card
- Additional funding list

Import to R Merge

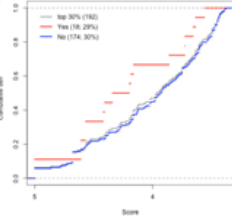
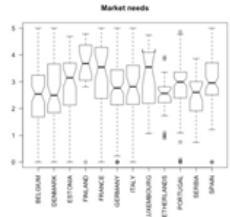
Working Database

- Accelerator info
- Features

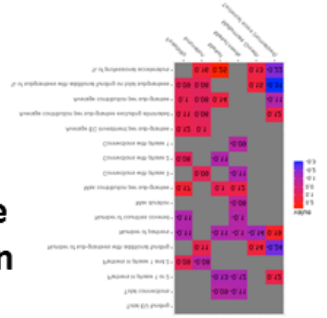
Import to R Merge
Project partners

FI Phases 1-3 Data Sources

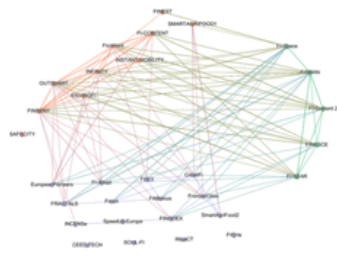
- Partners & projects data



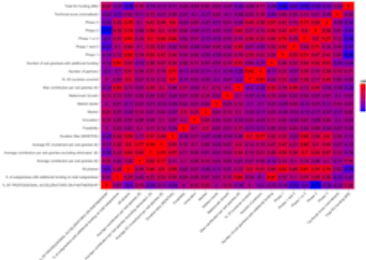
Best practice identification



Degree of Connectivity



Correlation analysis



Best practice identification for numerical indicators, results

N.	Indicator	KPI Feasibility	KPI Innovation	KPI Market Focus	KPI Market needs	Mattermark Growth score	FIWARE Technical Score
Indicator 5	Number of partners	-		-	--	--	++
Indicator 6	All phases connections			-	--		
Indicator 6.4	Partners in phase 1 and 2	+	-				++
Indicator 7	% of professional accelerators		+	++		++	--
Indicator 11	Average EC investment per subgrantee (€)	++	++				
Indicator 25	% of Subgrantees with additional funding	+	+		++	---	

Legend: - or + = very weak correlation; --- or +++ = medium correlation

Source: FI-IMPACT 2016

Significant correlations, top 30% Subgrantees

1st step – Indicators cleanup – correlation analysis and expert judgement

Best practice identification for binary (yes/no) indicators, results

		KPI Feasibility	KPI Innovation	KPI Market Focus	KPI Market needs	Mattermark Growth score	FIWARE Technical Score
Indicator 8	Partner with Fiware coaches		-	+	+		
Indicator 9	Proposal phase - online/offline support						+
Indicator 10 Selection Approach	Pipeline	+	+				-
	Funnel	-	-				+
Indicator 16	Business Innovation Support	-	-	-			+
Indicator 18	Gateways to further funding		+		+		
Indicator 19	Matchmaking and Networking		+	+			-

Legend: - or + = very weak correspondence; -- or ++ weak correspondence; --- or +++ = medium correspondence

Source: FI-IMPACT 2016

Summary of Correlations, top 30% performers

We have shown how a set of IT tools and computational methods can be used to assess the socio-economic impact of a big investment programme, such as FI-PPP European programme for Internet innovation.

Two approaches

- benchmarking through questionnaires and KPIs
- more exploratory techniques were used for statistical analysis and visualisation.

Best practices tools/statistical analysis

- Results have shown most of the expected correlations
- Some statistically significant new insights were detected
- Main weakness - limited available data on actual market performance
- However, even weak signals, supported the experts when performing qualitative analysis. Combined with the results of the qualitative interviews, they point to the positive role of professional accelerators within consortia, and positive impacts of practices such as workshops, matchmaking and providing gateways to further funding.