



Smart Transportation Alliance

2016 Annual Conference & Innovation Awards

Brussels, Wednesday 3 February 2016



Opening Plenary

Smart Transportation
Infrastructures Connecting People
and Businesses Across the World

2016 STA ANNUAL CONFERENCE & INNOVATION AWARDS



KEYNOTE ADDRESS

**Mr Mario Aymerich, Director – Environment and
Regional Development Projects Directorate
European Investment Bank (EIB)**

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ANNUAL CONFERENCE & AWARDS**

**An innovative & informative review
of the current state of Smart
Transportation Infrastructures**

**Smart finance for smart
infrastructures ?**

**Mario Aymerich, Director
Projects Directorate, EIB**



Inefficient situations to be avoided



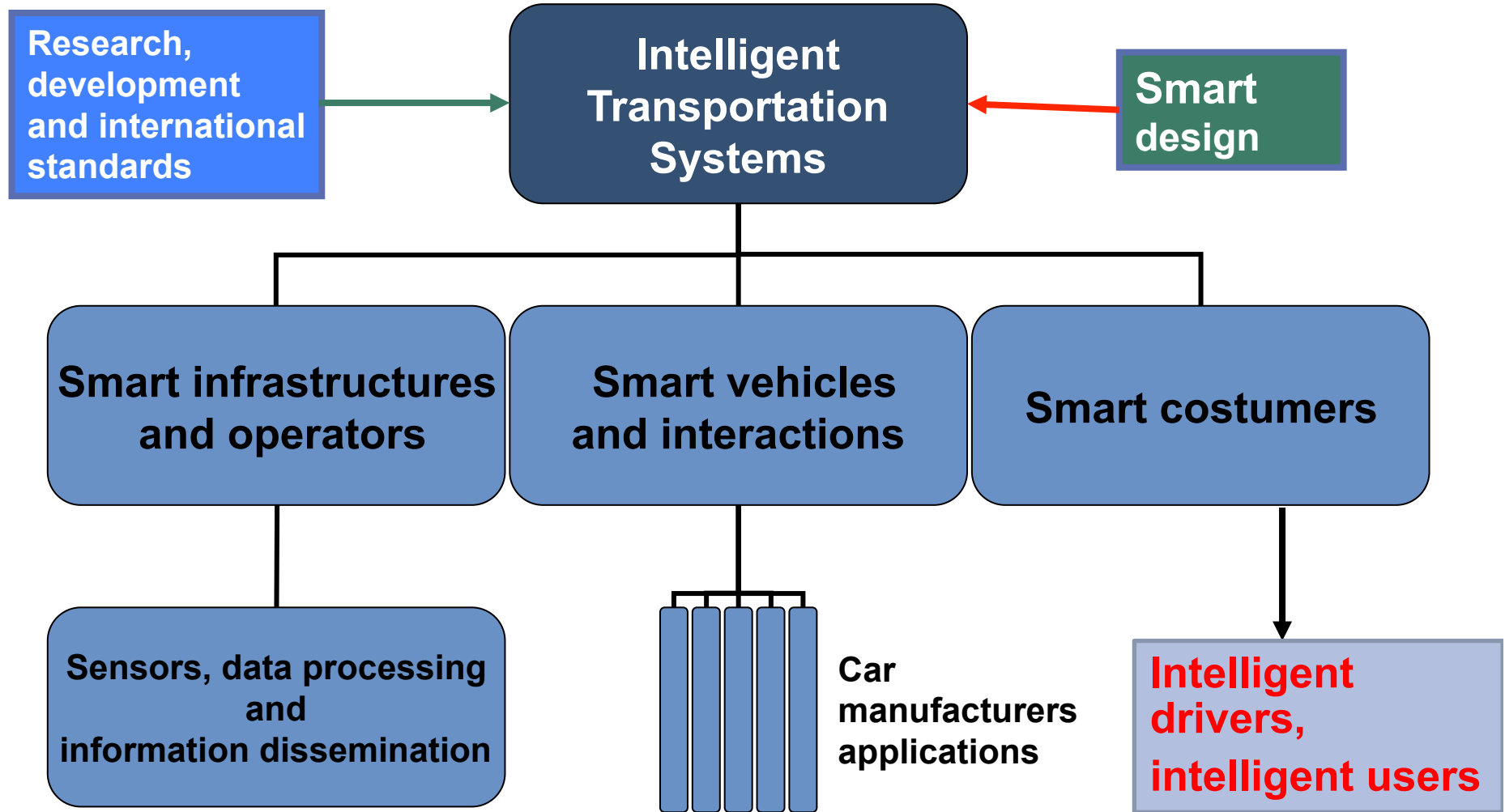
Congestion, accidents, insecurity, contamination, lack of information...

Intelligent Transportation Systems (a definition)

Intelligent transportation systems (ITS) are advanced applications which, without embodying intelligence as such, aim to provide innovative services relating to different modes of transport and traffic management and enable various users to be better informed and make safer, more coordinated, and 'smarter' use of transport networks.

Although ITS may refer to all modes of transport, EU Directive 2010/40/EU (7 July 2010) defines ITS as systems in which information and communication technologies are applied in the field of road transport, including infrastructure, vehicles and users, and in traffic management and mobility management, as well as for interfaces with other modes of transport.

ITS Components



But, What is “Intelligence”?

Human intelligence, is the mental quality that consists of the abilities to learn from experience, adapt to new situations, understand and handle abstract concepts, and use knowledge to manipulate one's environment.

An intelligent person has the ability to think, understand, and learn things quickly and well; while an intelligent artificial system has the capability of operating as if by human intelligence by using automatic computer control.

Human Intelligence VS Artificial Intelligence

Pros

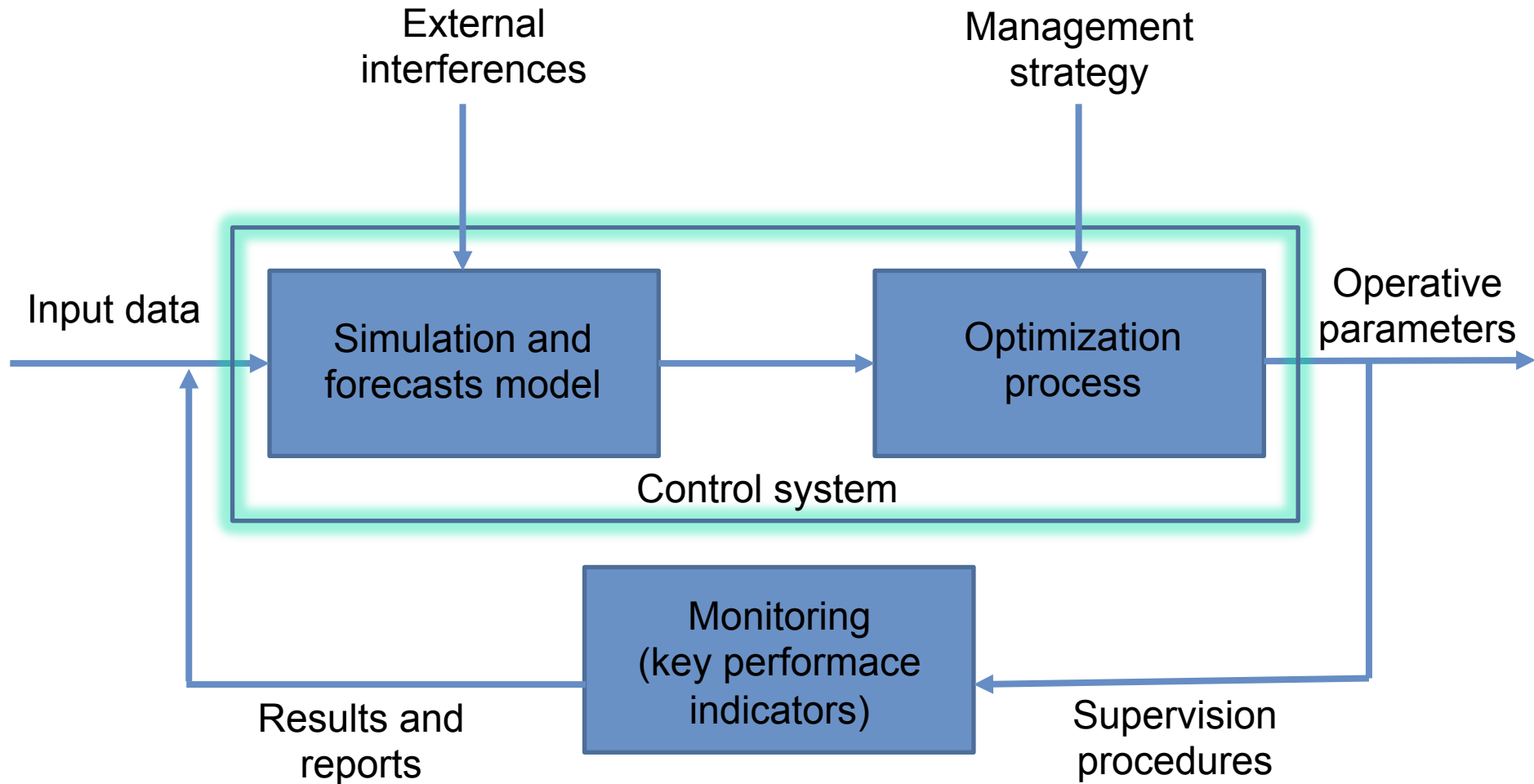
Human Intelligence

- Intuition, Common sense, Judgement, Creativity, Beliefs etc
- The ability to demonstrate their intelligence by communicating effectively
- Plausible Reasoning and Critical thinking

Artificial Intelligence

- Ability to simulate human behavior and cognitive processes
- Capture and preserve human expertise
- Fast Response. The ability to comprehend large amounts of data quickly.

ITS Functioning Principle



Some General Principles

Improving safety and reducing congestion requires more efficient management of the roadway system. Therefore, smart systems and infrastructure need to be adaptable to varying demands and conditions, including developing technology.

Vehicle-highway Information exchange is the key to improved management and operation of the transportation network. This capability could provide valuable information on traffic conditions, crashes, adverse weather and road conditions, etc.

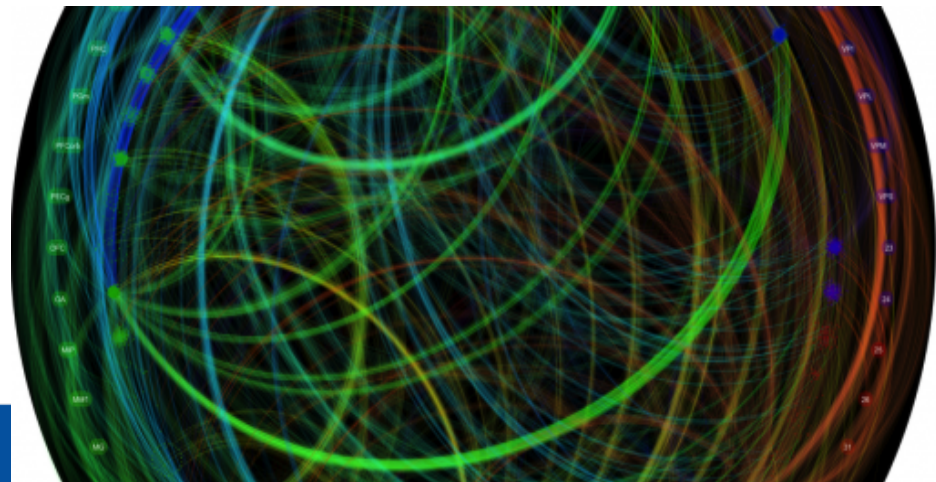
However, according to the Royal Academy of Engineering (UK):

“ Transport being Smart does not necessarily solve all problems because the infrastructure operators have no control over when people want to use the network → smartness needs to reach user level”

A step forward: the “Smart City” concept

A smart city uses digital technologies or information and communication technologies (ICT) to enhance quality and performance of urban services, to reduce costs and resource consumption, and to engage more effectively and actively with its citizens. Sectors that have been developing smart city technology include government services, transport and traffic management, energy, health care, water and waste. Smart city applications are developed with the goal of improving the management of urban flows and allowing for real time responses to challenges. A smart city may therefore be more prepared to respond to challenges than one with a simple 'transactional' relationship with its citizens.

**A new paradigm:
full interconnection and
big data processing**

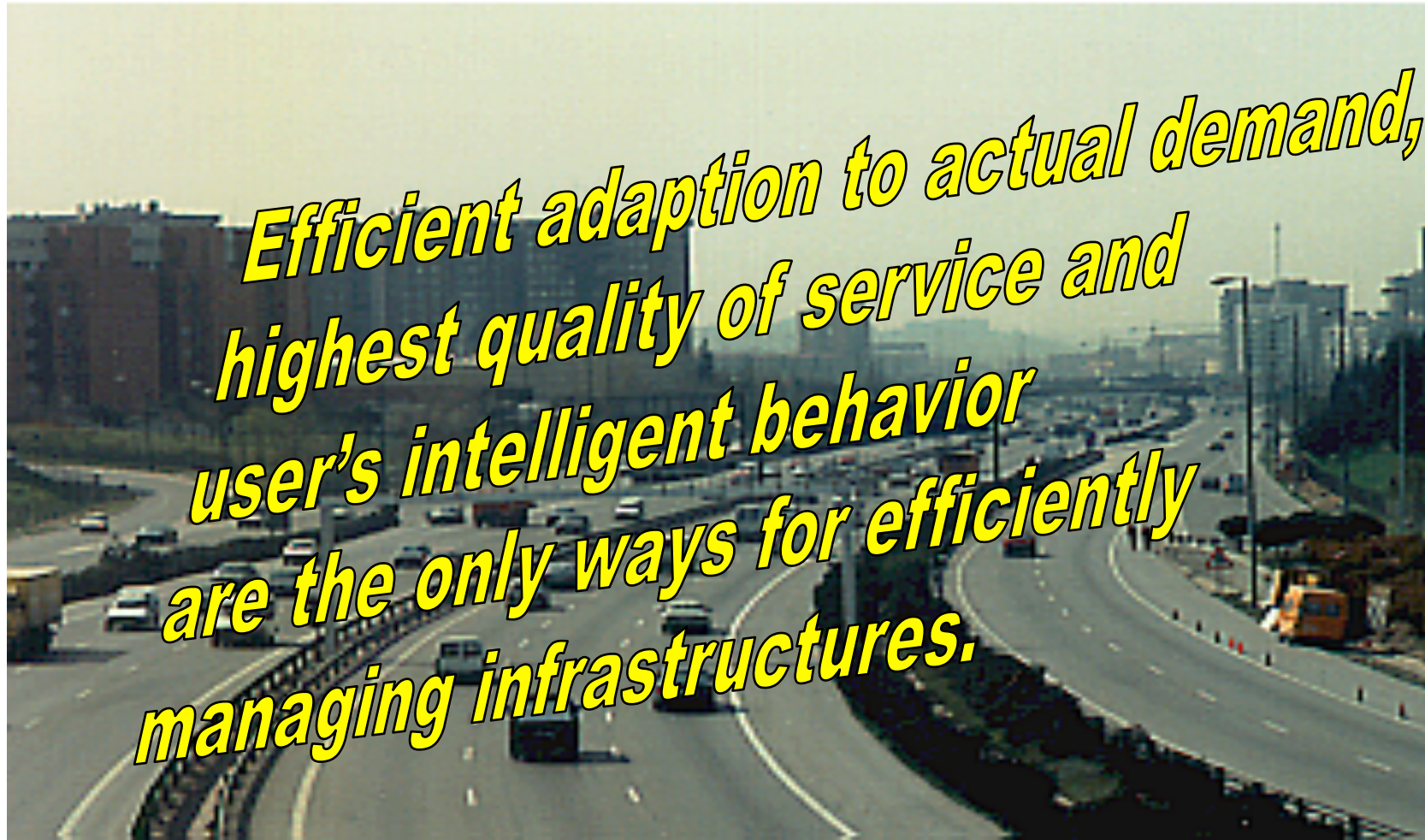


Everything in a package



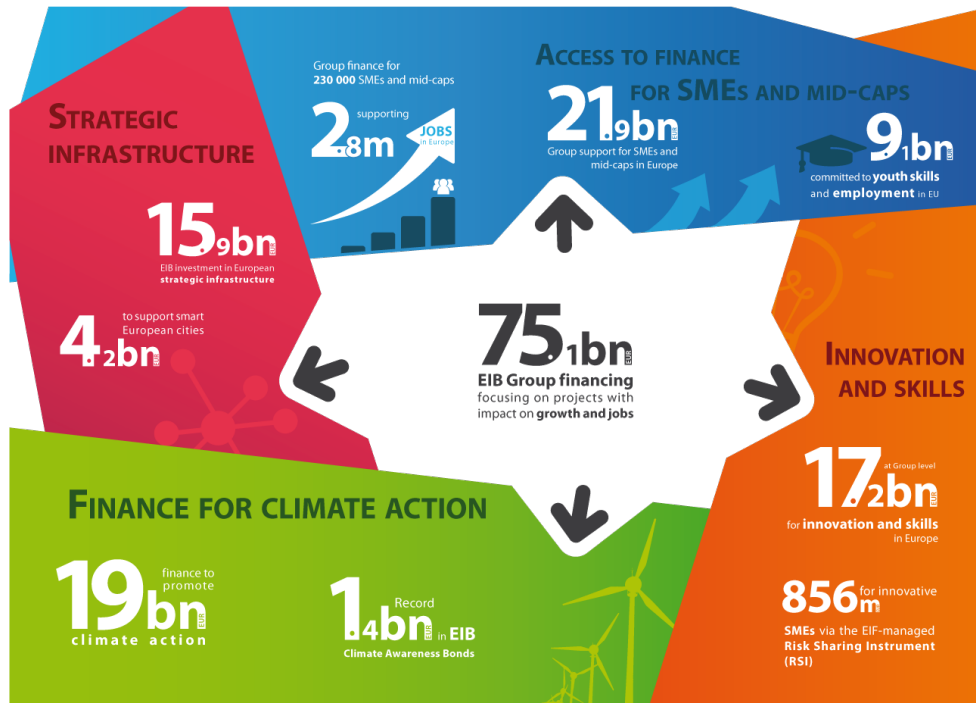
Where the role/implication of the user is fundamental

A Conclusive Message



What can the EIB do in this context ?

After project implementation, the EIB **does not** finance operation nor regular maintenance costs.



However, the EIB can finance investments aiming at the improvement of the road conditions, notably in terms of **Road Safety** and actions fighting against the effects of **Climate Change**.



FOCUSING ON KEY PRIORITIES



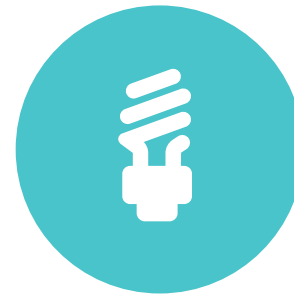
ENVIRONMENT

EUR 19.6bn



INFRASTRUCTURE

EUR 18.9bn



INNOVATION

EUR 18.7bn



SME

EUR 29.2bn





DELIVERING IMPACT WHERE IT'S NEEDED



JOBS
-4.1m jobs in small businesses



HEALTH
-9.8m people with access to improved health services




EDUCATION
-1.5m students benefitting from EIB projects



WATER
-21m people benefitting from safe drinking water



TRANSPORT
-380m additional passengers



ENERGY
-2.3m households powered by EIB projects



URBAN
-3.2m people benefitting from urban upgrades



DIGITAL
-15.3m people with new or upgraded connections



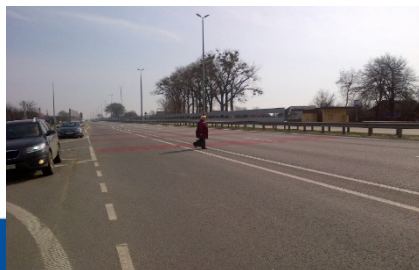
A practical example: the EIB Road Safety Action Plan

EIB's Transport Lending Policy (CA/452/11):

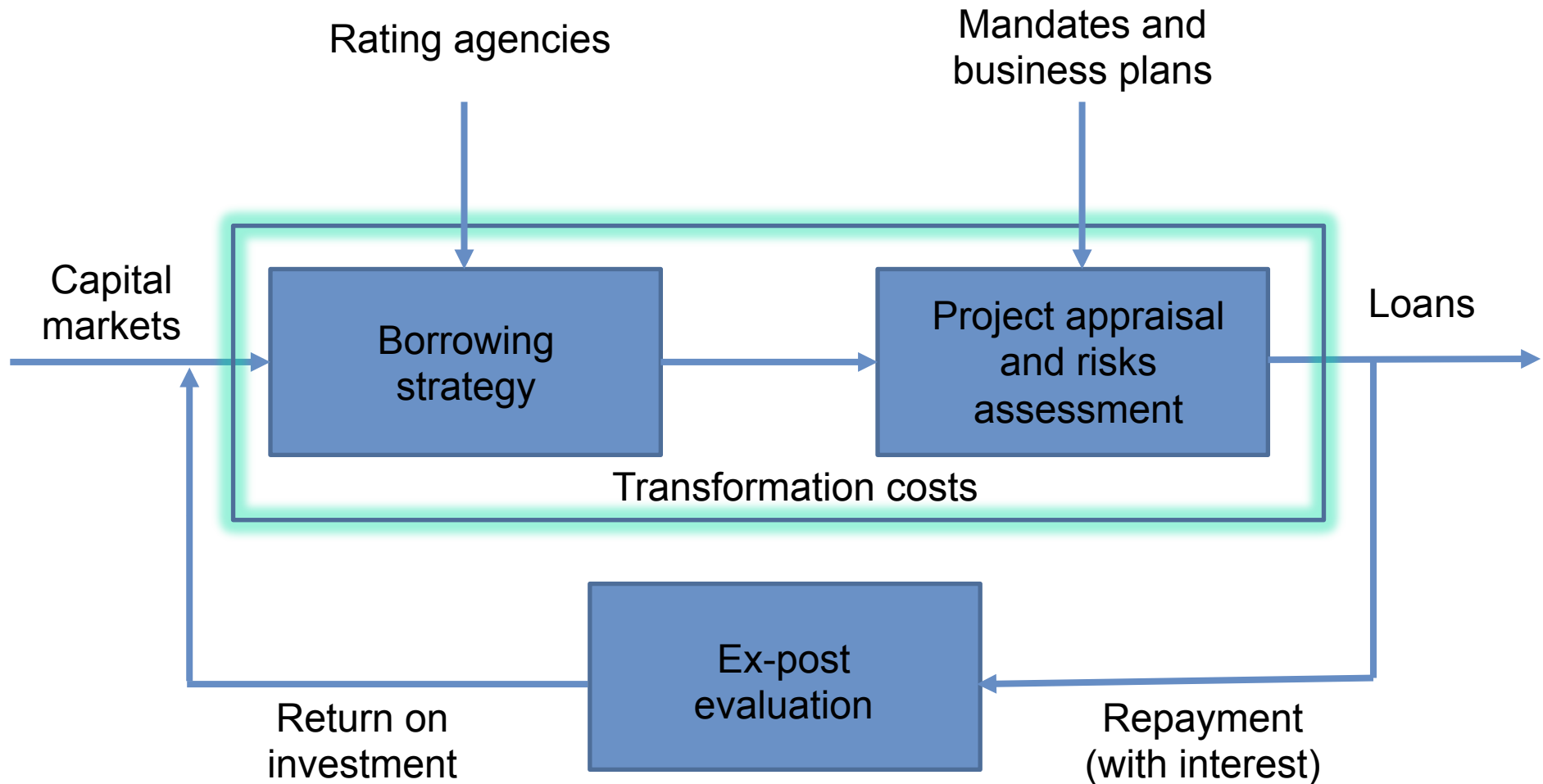
“Projects on the TEN-T shall be subject to a road safety audit or inspection in line with the Road Infrastructure Safety Management Directive 2008/96/EC (plus the Tunnel Safety Directive 2004/54/EC where applicable). Outside the TEN-T, safety audits or inspections shall also be performed in line with Directives”.

Derived goals:

- 1. Mainstream road safety in EIB road infrastructure operations**
- 2. Scale up existing EIB lending, blending and advising activities in of road safety improvement projects**
- 3. Improve monitoring of road safety impacts of the EIB projects.**



Banks functioning principle



EIB project requirements: the « **three pillars** »

Quality and contribution
to sustainable growth &
employment (viability)



Contribution to EU
policy (eligibility)



EIB contribution
(added value)



Comply with procurement and environmental protection regulations

A project assessment with many facets

Due diligence: technical appraisal



Environment/social impact and surveillance

**Scope of works
Feasible solutions**

**Procurement
Sound unit costs
Components balance
Cost contingencies**

**Implementation plan
Project management**

**Production
O&M annual costs
Revenues stream
Operational ratio**

**Tariffs structure
Subsidies sources**

The main goal is to help to catalyse investment

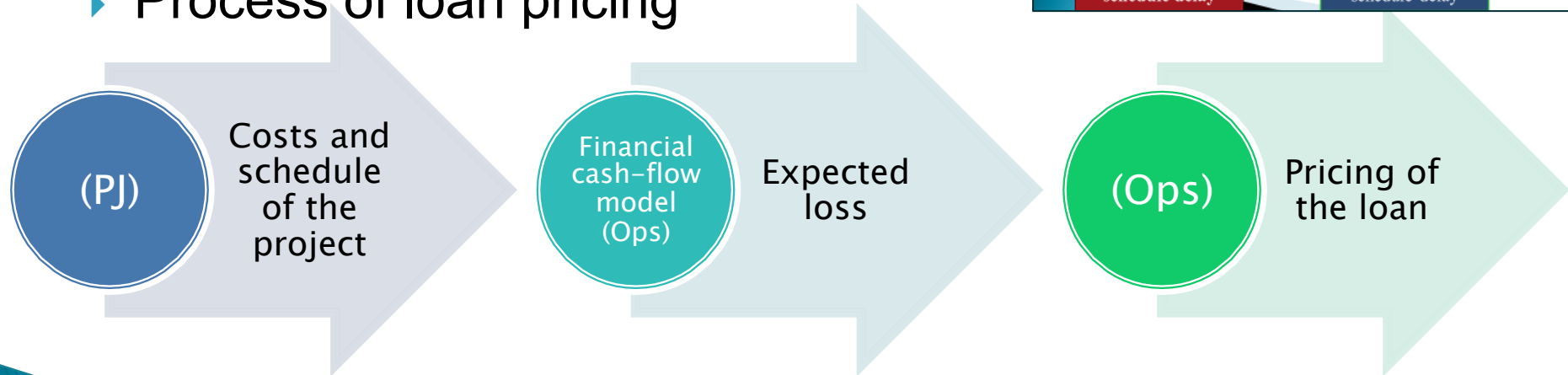
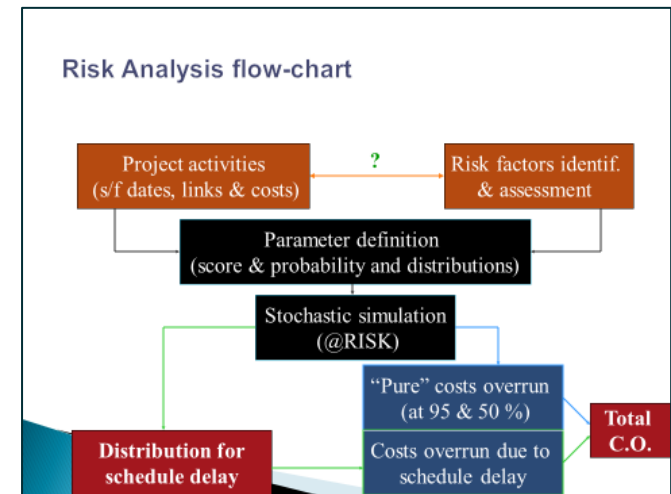
LENDING	BLENDING	ADVISING
<p>Loans (individual, multi-sector, multi-component projects)</p> <p>But also:</p> <p>Guarantees (trade financing)</p> <p>Equity participation (investment funds)</p>	<p>Combining EIB finance with EU budget (SPL projects) (Project Bond Initiative)</p> <p>Higher risk projects for innovation (RSFF) and Youth Employment</p>	<p>Advisory Services:</p> <p>Prepare & implement projects (JASPERS)</p> <p>Independent Quality Review</p> <p>Support for public / private partnerships (EPEC)</p>

Attracting FUNDING for long-term growth

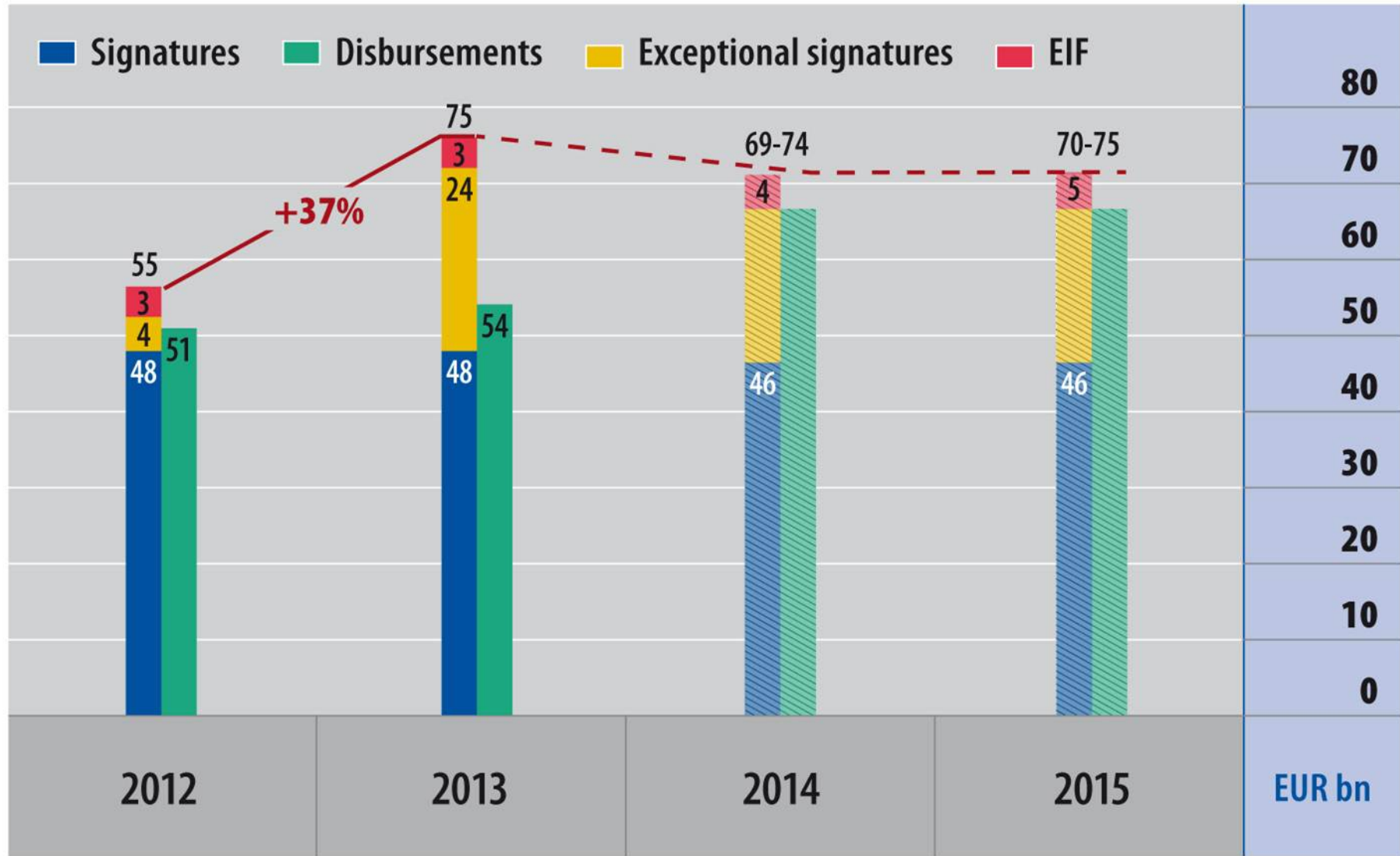
Financing infrastructure projects at the EIB

- ▶ The EIB often takes construction risk
Inability of the promoter to pay the loan back would represent a loss to the Bank

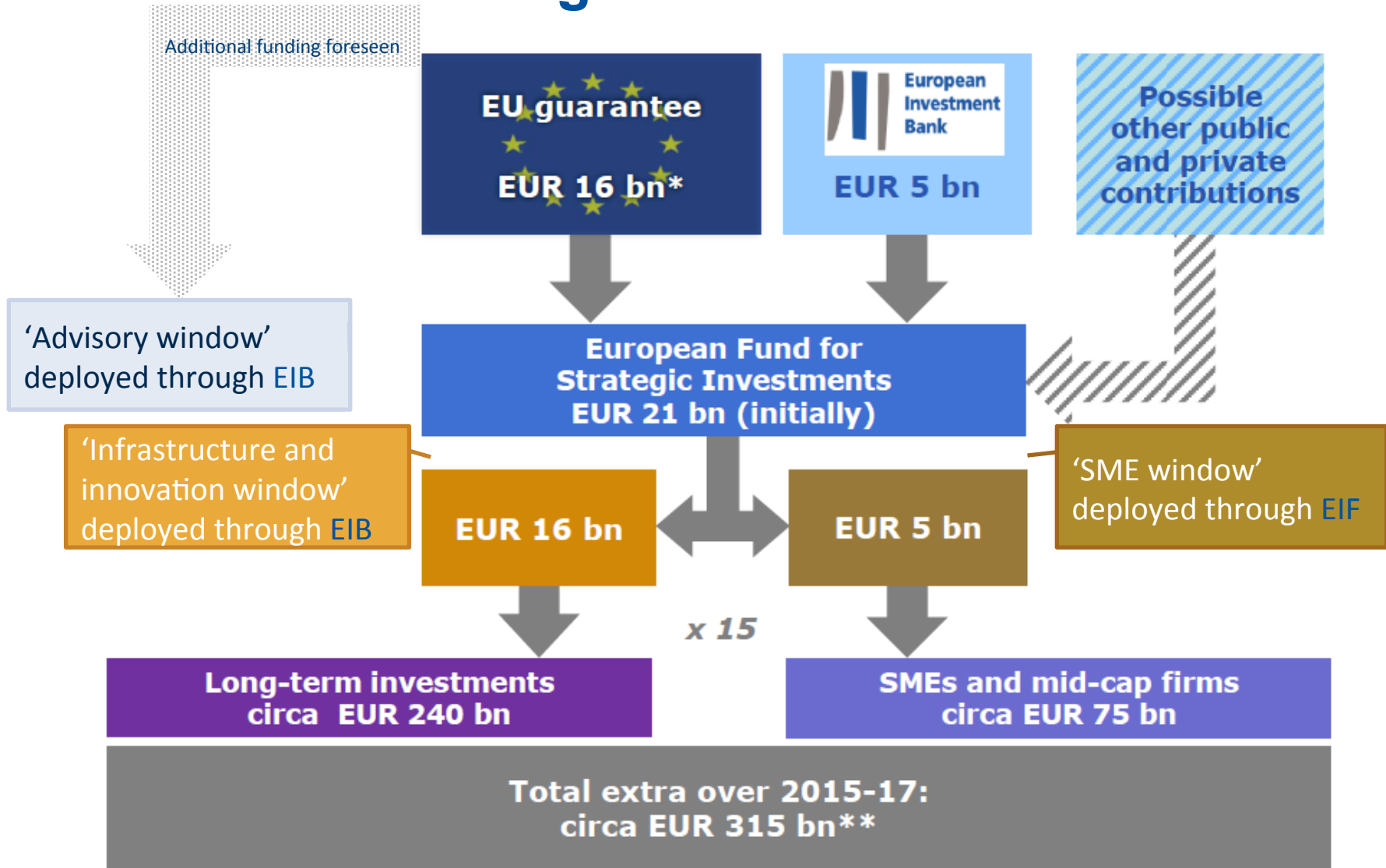
- ▶ Process of loan pricing



A strong response to the crisis



European Fund for Strategic Investments

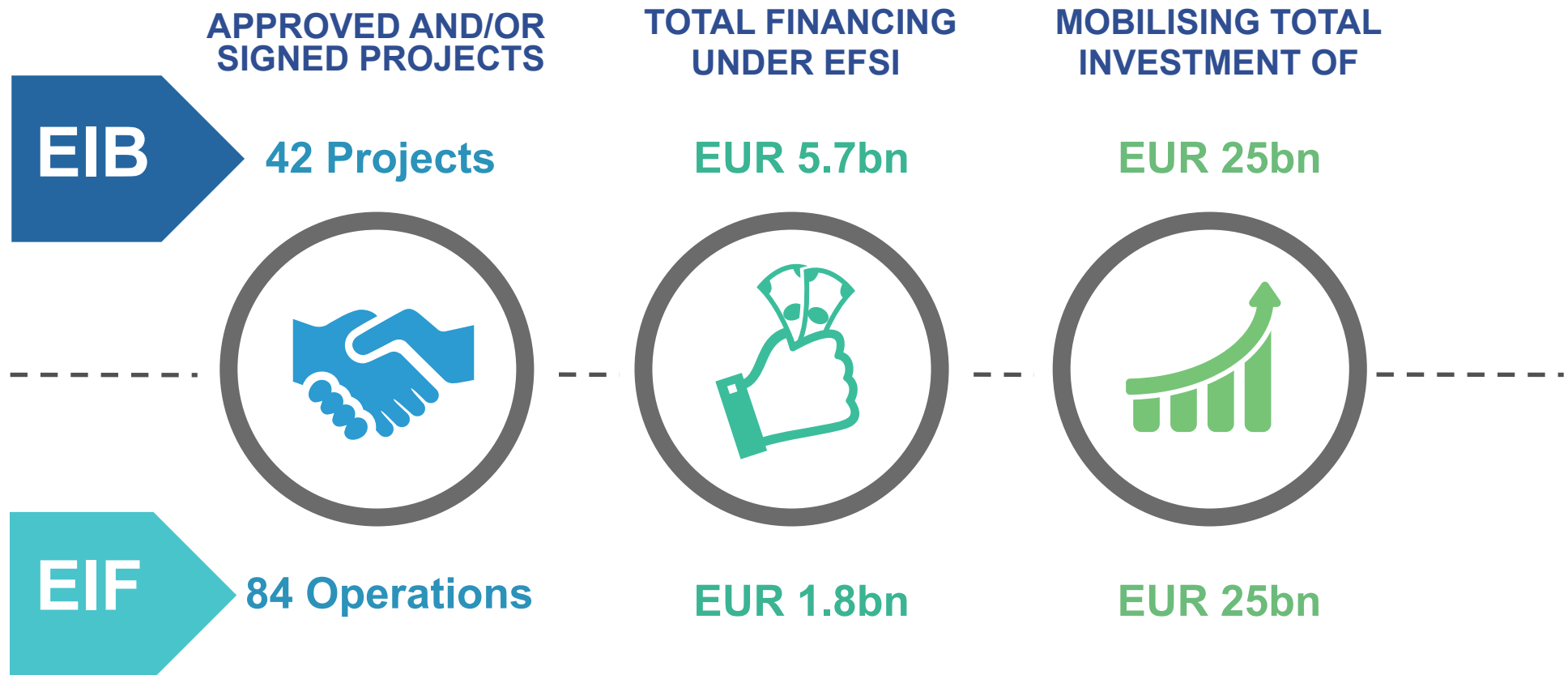


EFSl: General Conclusions

- ❖ **Projects require full appraisal, as other projects financed by EIB**
- ❖ **Forecast: EUR 15-20 bn /year, on top of existing pipeline (depending on risk profiles)**
- ❖ **Greater ability to handle risky operations**
- ❖ **Increasing importance of loans, guarantees and participation in equity to leverage private sector investment**
- ❖ **Continued importance of EU structural and other funds**
- ❖ **Key role of member state authorities, as well as private sector and SME stakeholders**
- ❖ **Eligibility criteria to be enlarged**



EUROPEAN FUND FOR STRATEGIC INVESTMENT IN 2015



Thank you



The EIB is the EU instrument for lending, blending and providing technical advice to finance sustainable solutions → ITS