



Research Infrastructures - Access to Finance

Innovation Finance Advisory
European Investment Bank

II RICH Symposium – Lisbon, 08 May 2017

A. EIB at a glance

B. EIB - Innovation Finance Advisory (IFA)

C. Research Infrastructure (RI) projects – Financing challenges

D. EIB Financial Instruments

E. How can IFA support RI?

- Case studies

EIB at a glance – Our priorities

The EU bank:

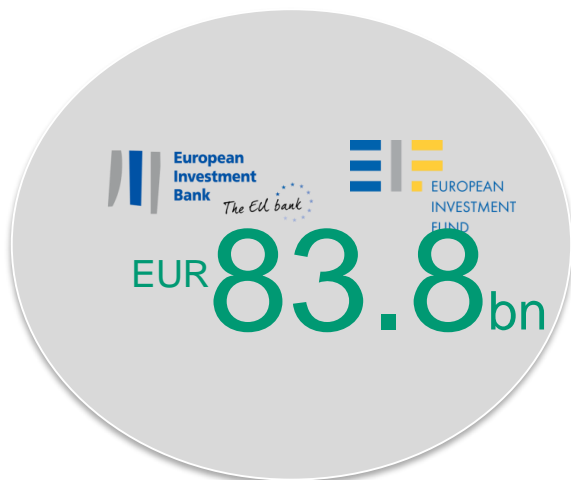
- Established in 1958
- Around 90% of lending within the EU
- Shareholders are the 28 EU Member States

World's largest International Financial Institution

- Largest multilateral lender
- Largest multilateral capital markets borrower

Solid credit fundamentals

- AAA-rated by the three major rating agencies
- Favourable borrowing conditions passed on to clients



Smaller businesses Infrastructure



EUR 33.6bn
300 000
companies



EUR 19.7bn
Improvements
benefitting
55 million people

Environment



EUR 16.9bn
Cleaner water for
25 million people

Innovation

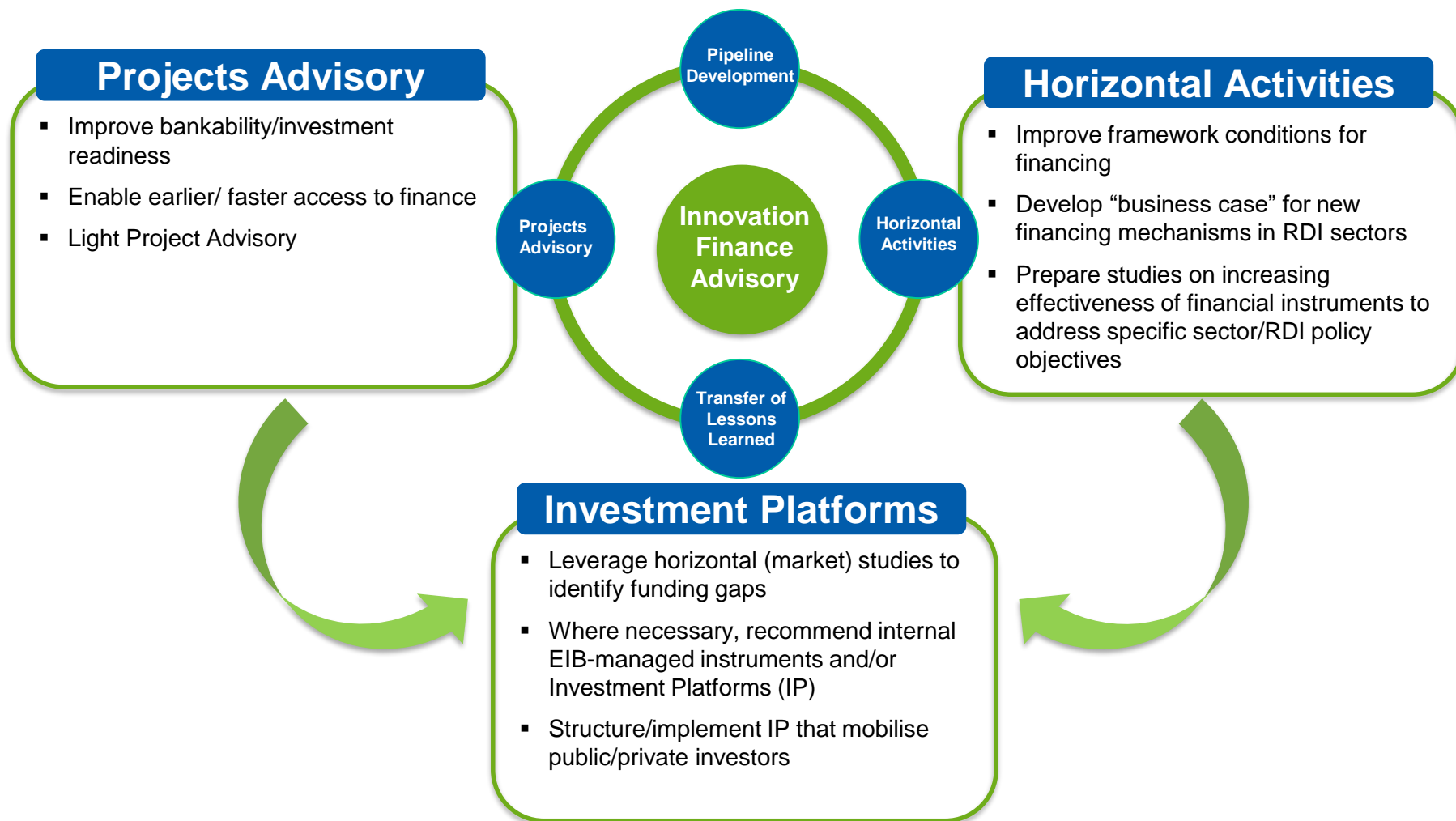


EUR 13.5bn
11 million digital
connections

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Innovation Finance Advisory – What do we do?

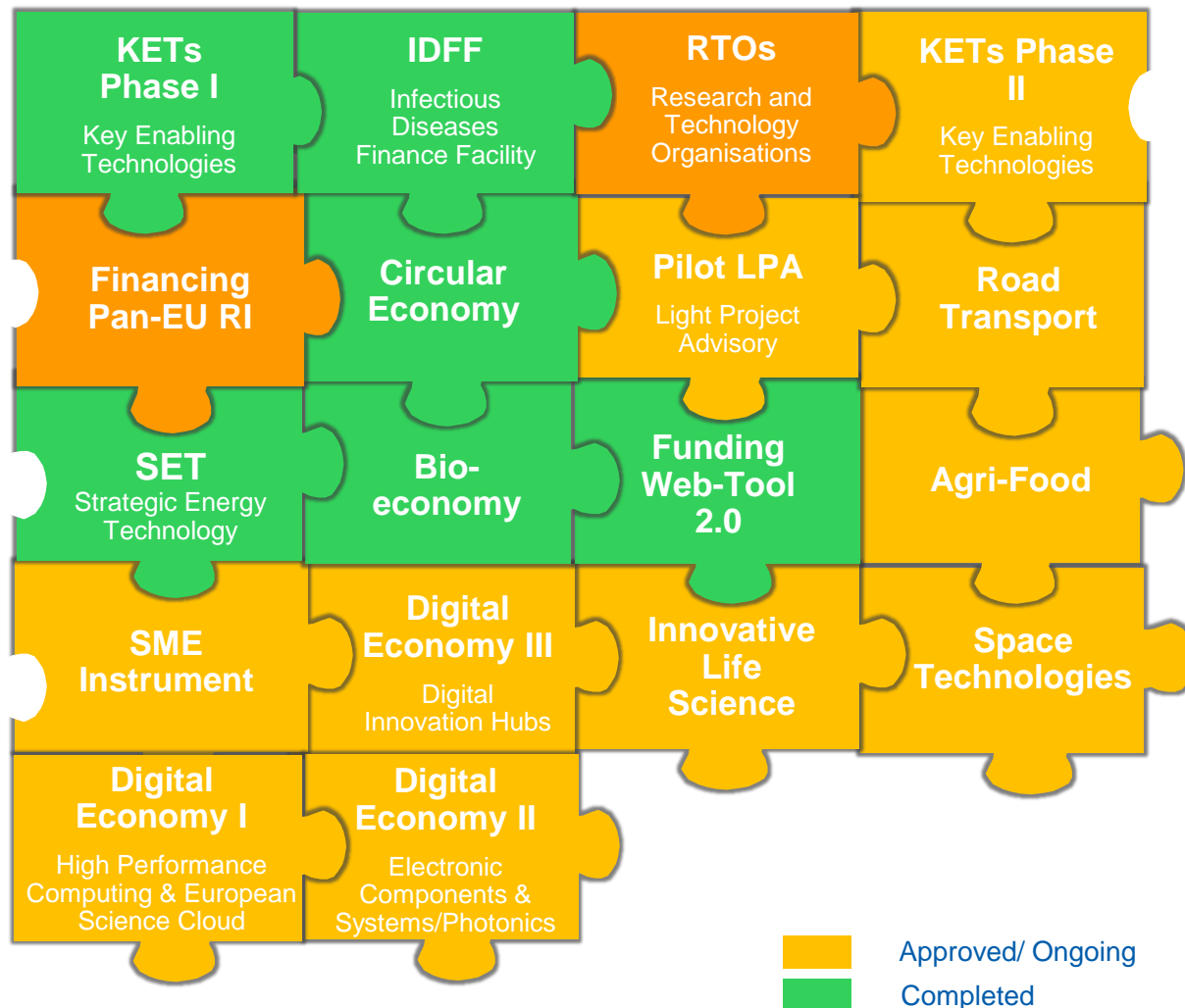
Enhance access to finance for innovative projects



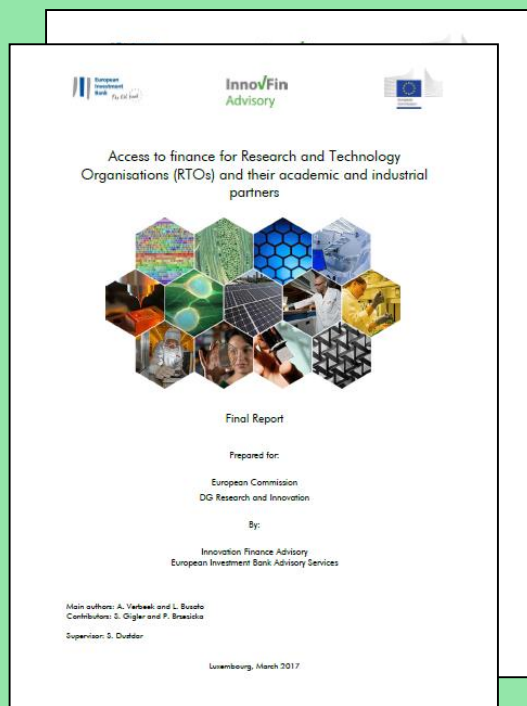
Innovation Finance Advisory – What do we do?

Study access-to-finance conditions by thematic areas

6 simple steps to loan funding



IFA Study on 'Access to finance for Research and Technology Organisations (RTOs) and their academic and industrial partners' (March 29, 2017)



Research and Technology Organisations (RTOs) play a pivotal role in the European business landscape (...). I would therefore like to congratulate EARTO for [their] leadership (...). As the EU bank, we understand the challenges that many RTOs face in raising finance. (...) We are ready to build on our existing range of financial instruments to deliver advice and products which will help RTOs optimise their funding possibilities.

Werner Hoyer

President of the European Investment Bank

The mission of Research and Technology Organisations (RTOs) is to harness science and technology in the service of innovation, to improve quality of life and build economic competitiveness (...). EARTO members are involved in all parts of Horizon 2020, strongly contributing to increasing its impact on innovation. I encourage RTOs to actively explore the full range of InnovFin and EFSI products to diversify their funding options.

Carlos Moedas

EU Commissioner for Research, Science and Innovation

www.eib.org/infocentre/publications/all/access-to-finance-for-research-and-technology-organisations

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Funding needs along the RI project life cycle

Specific funding characteristics of RI projects - Access to finance challenges

- **High funding needs over extended time periods associated with high uncertainty**
- **Funding dependent on the shareholders' contributions**
- **Requirement of liquidity management, driven by long implementation times**

Funding needs along the RI project life cycle

Specific funding characteristics of RI projects - Access to finance challenges

High funding needs over extended time periods associated with high uncertainty

- Large Capex and Opex costs for extended time periods
- **High costs and delay risks** (long implementation periods combined with the difficult nature of science, lack of track record and complexity requiring project redefinition), **likely leading to growing costs and delays**

Funding dependent on the shareholders' contributions

Requirement of liquidity management, driven by long implementation times

Funding needs along the RI project life cycle

Specific funding characteristics of RI projects - Access to finance challenges

- High funding needs over extended time periods associated with high uncertainty
- Funding dependent on the shareholders' contributions**
 - **Typically limited commercialisation likelihood:** Ultimately, funding commitment has to be provided by the shareholders, at least in earlier years
 - Funding commitment needs to cover funding needs from pre-implementation to phase-out
- Requirement of liquidity management, driven by long implementation times

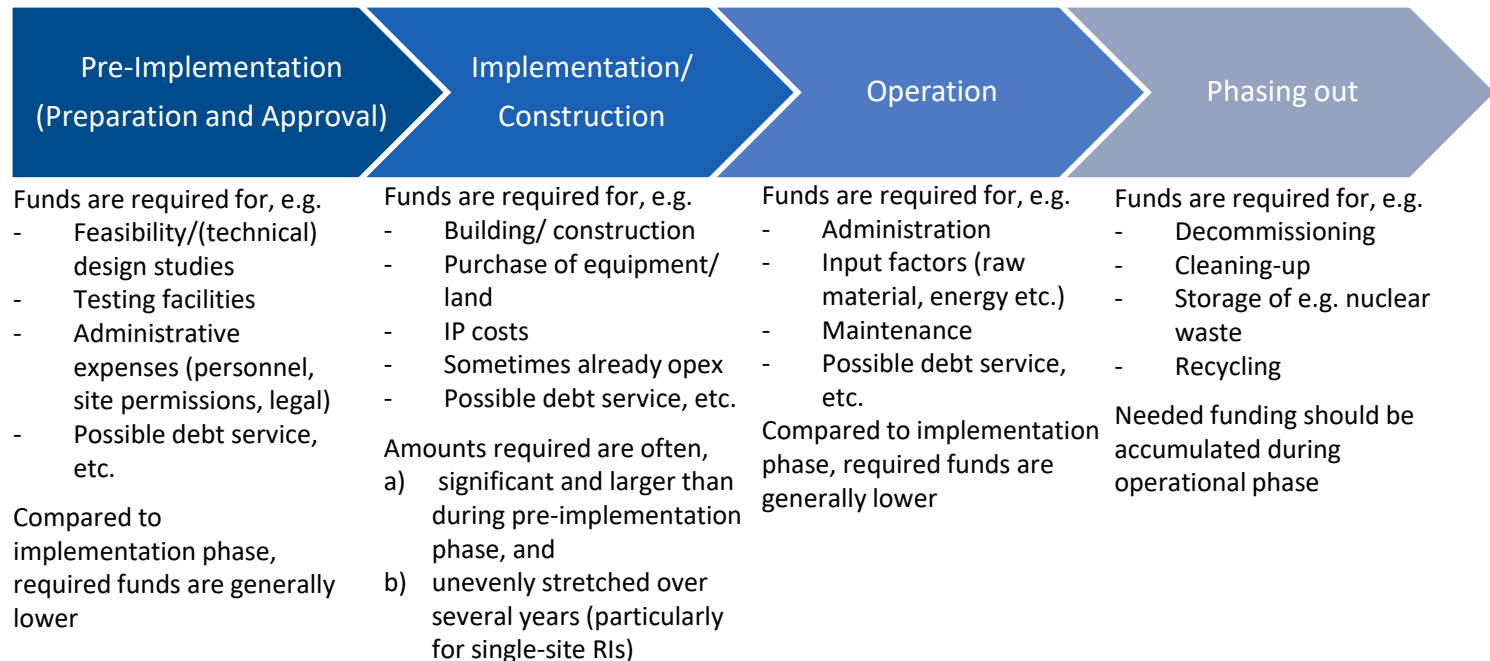
Funding needs along the RI project life cycle

Specific funding characteristics of RI projects - Access to finance challenges

High funding needs over extended time periods associated with high uncertainty

Funding dependent on the shareholders' contributions

Figure 1: Funding needs along the RI project life cycle



Requirement of liquidity management, driven by long implementation times

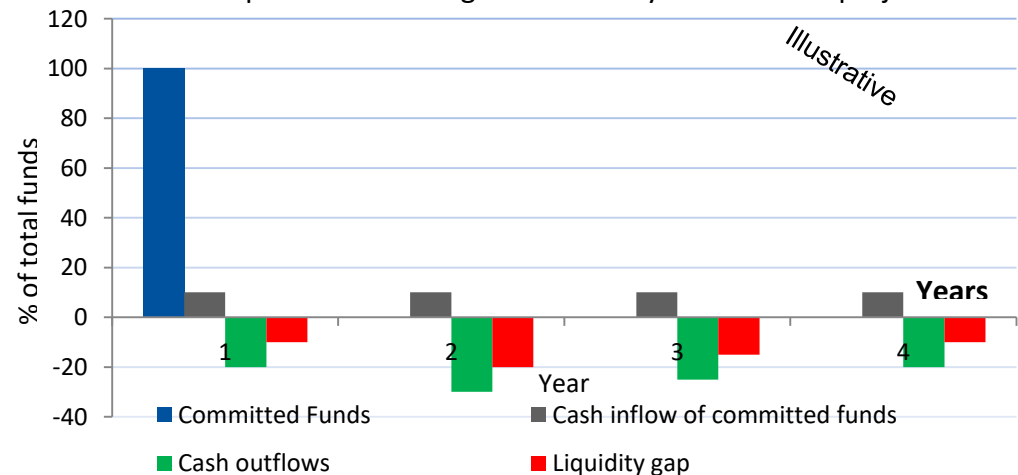
Funding needs along the RI project life cycle

Specific funding characteristics of RI projects - Access to finance challenges

- High funding needs over extended time periods associated with high uncertainty
- Funding dependent on the shareholders' contributions
- **Requirement of liquidity management, driven by long implementation times**

- Despite a 100% funding commitment at inception, the timing mismatch between annual cash contributions by stakeholders and the high cash requirements of the project can lead to liquidity gaps in the early years of the RI project

Figure 2: Illustrative example of the expected funding and payment requirements during the first few years of the RI project



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InnovFin product overview (Currently being redesigned)



Early-stage Enterprises	SMEs
InnovFin Technology Transfer	InnovFin SME Guarantee
InnovFin Business Angels	
InnovFin Venture Capital	
InnovFin Fund-of-Funds	
Early-Stage Enterprises, SMEs and Small Midcaps < 500 Employees	SMEs and Small Midcaps < 500 Employees
Intermediated Equity Financing	Intermediated Debt Financing

Midcaps	Large Caps	Thematic Finance
InnovFin MidCap Guarantee	InnovFin Large Projects	InnovFin Energy Demo Projects
InnovFin MidCap Growth Finance		InnovFin Infectious Diseases
Midcaps < 3 000 Employees	Large Caps Typically > 3 000 Employees	SPV, Midcaps and Large Caps
Intermediated and/or Direct Corporate Lending	Direct Corporate Lending	Project Finance and/or Direct Corporate Lending

Advisory
InnovFin Advisory
Public and Private Sector Promoters
Financial Advisory

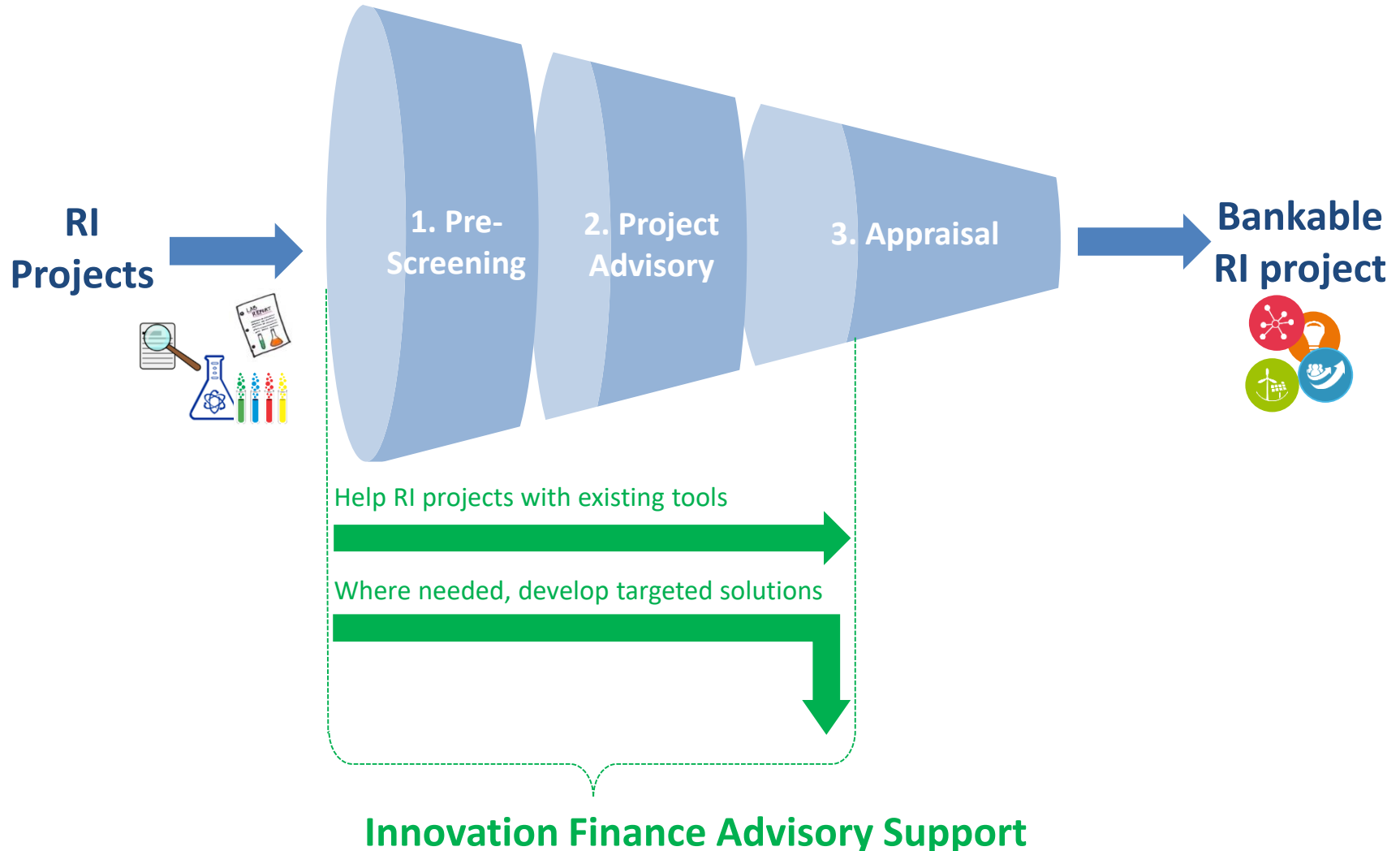
Direct products
 Indirect products

+ Extension of scope via the European Investment Advisory Hub (part of Investment Plan for Europe)



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What is next?

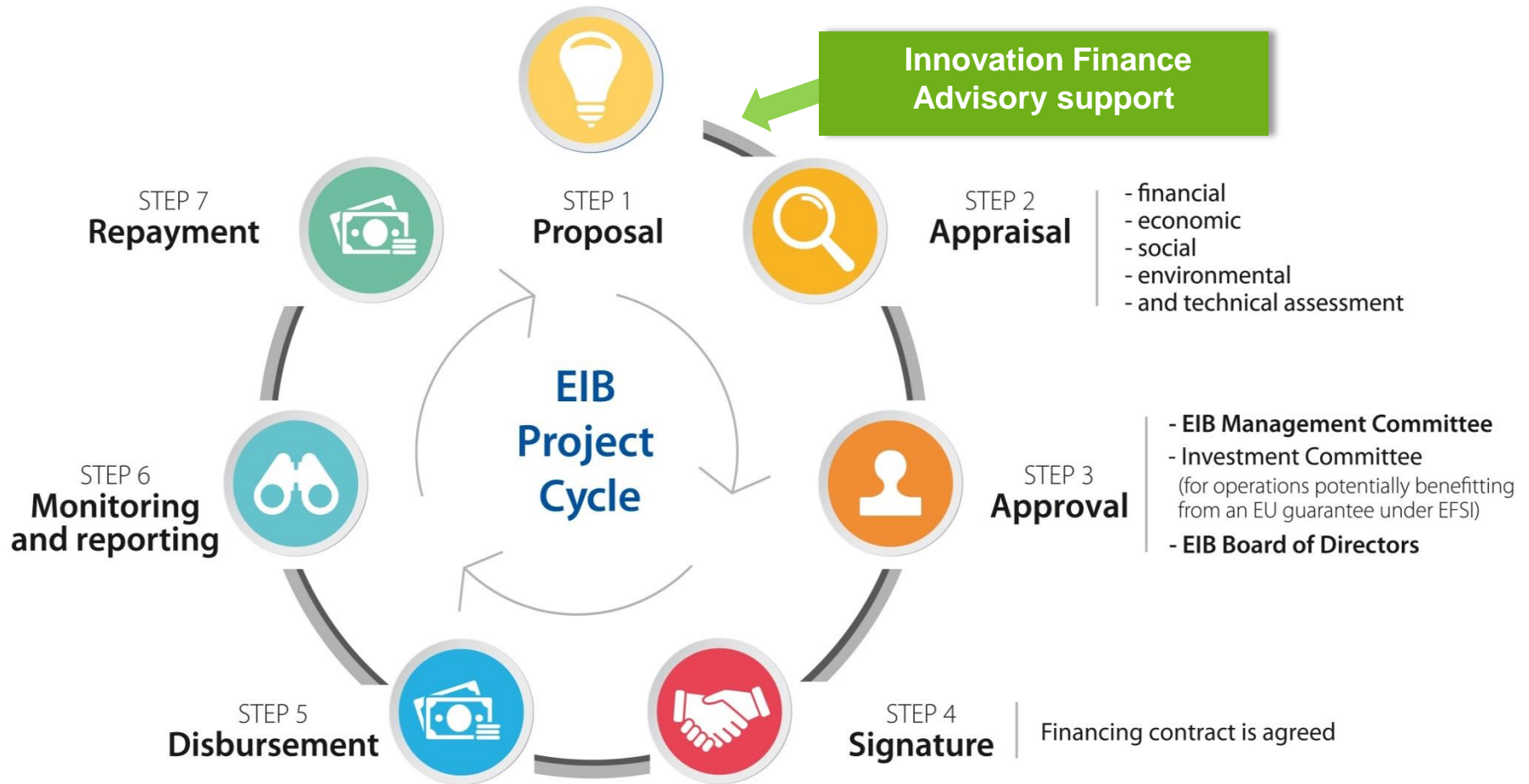


Innovation Finance Advisory – What do we do?

Project Advisory cycle



Innovation Finance Advisory in the EIB Project cycle



Case studies – EIB financing of RI

European Spallation Source (ESS)

Description

- ESS is a pan-European is a multi-disciplinary research infrastructure based on the world's most powerful neutron source. This new facility will be up to 100 times more powerful than today's leading facilities, creating very significant new opportunities for R&I in the fields of life sciences, energy, environmental technology, cultural heritage and fundamental physics. The facility is designed to satisfy European demand for unique, cutting edge research capacity
- The main research facility is being built in Lund, Sweden, and the Data Management and Software Centre (DMSC) in Copenhagen, Denmark. ESS is owned by 12 member-countries
- This is the first ever loan supporting the construction of a project with the statute of a European Research Infrastructure Consortium (ERIC), and the first time that an ERIC accesses external financing to support the construction of the research facility. The financing was closed in November 2016

EIB Loan size: EUR 100m (Total financing support EUR 300m)

Innovation Finance Advisory value added

- IFA's advisory lasted from 2013 to 2014. EIB's contribution to the financial structuring has been innovative and had a high value to the counterparty. The IFA advisory support established the overall conditions for an EIB financing and helped the promoter and host countries to understand how an EIB financing could bridge the financing gaps during the construction period
- This early IFA intervention came at a crucial time for the promoter and host countries that used the EIB advisory work in their discussions with prospective shareholders.



Case studies – EIB financing of RI

European Synchrotron Research Infrastructure

Description

- Under the InnovFin Large Projects product, the EIB provided EUR 65m in risk finance for the ESRF-Extremely Brilliant Source (ESRF-EBS) project promoted by the European Synchrotron Facility in Grenoble
- The investment is a large-scale financing operation that will help to mobilise the resources required to implement the ESRF-EBS. This project, involving the 21 ESRF partner countries covers the creation, within existing infrastructure, of a first-of-a-kind storage ring with unrivalled properties which will expand the frontiers of X-ray science and the exploration of matter and materials
- ESRF will provide European and international researchers and industrialists with a facility of excellence for basic and applied research. The project also comprises an ambitious instrumentation programme and an intensified “big data” strategy, designed to exploit the properties of this new extremely brilliant synchrotron light source. The financing was closed in December 2015

Loan size

- EUR 60m (Total investment EUR 150m)



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