



Research Infrastructures - Access to Finance

Innovation Finance Advisory
European Investment Bank

Laura Busato

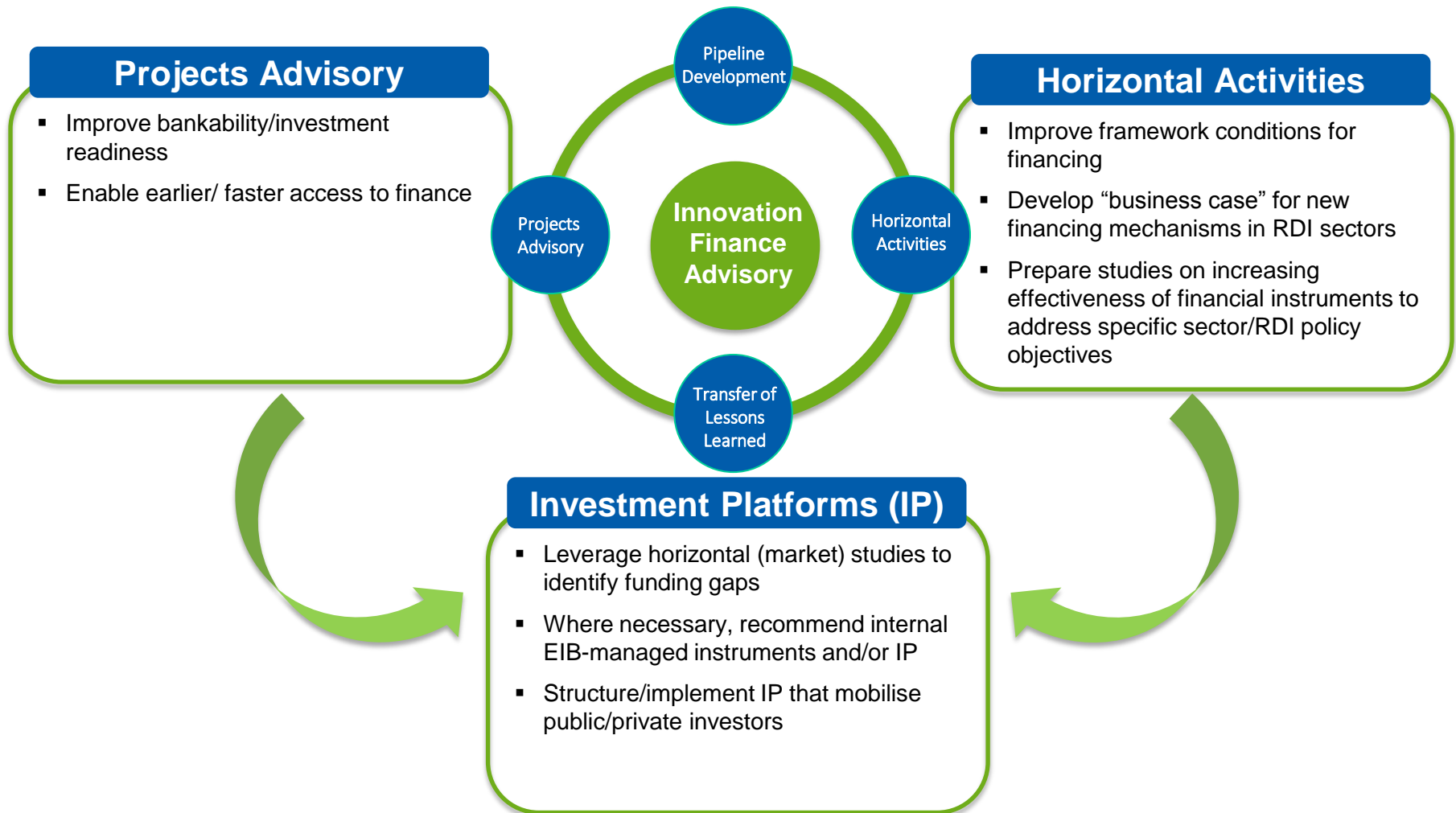
Second Extreme Light Infrastructure (ELI) pillars workshop
Brussels, 12 September 2017

Agenda

- A. EIB - Innovation Finance Advisory (IFA)**
- B. Research Infrastructure (RI) projects - Financing challenges**
- C. EIB Financial Instruments**
- D. Case studies**
- E. How can IFA support RI?**

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



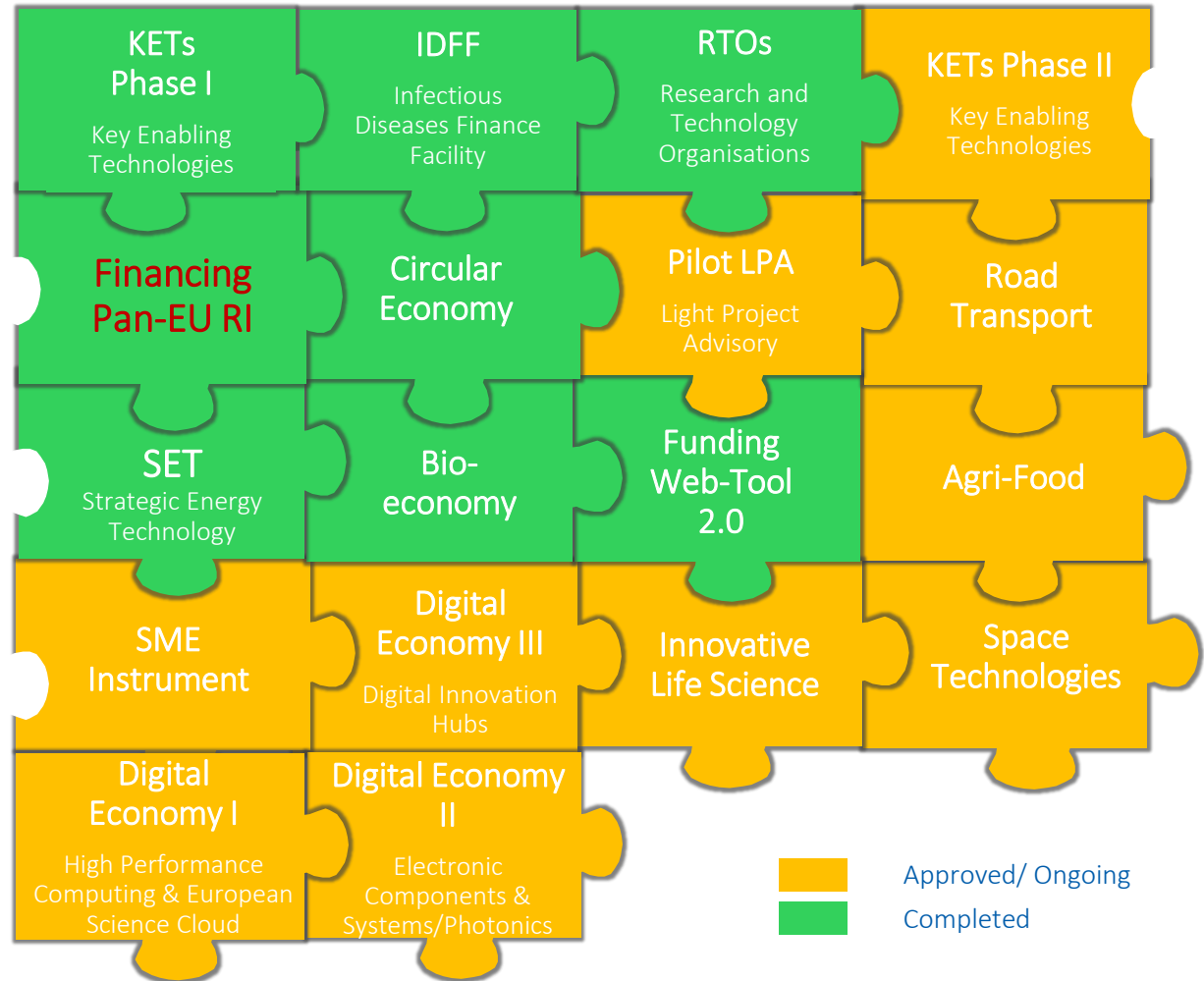
6 simple steps to funding for innovation

Access-to-finance conditions for KETs companies

Access to finance for Research and Technology Organisations (RTOs) and their academic and industrial partners

Assessment of access-to-finance conditions for projects supporting Circular Economy

InnovFin Infectious Diseases



Agenda

- A. EIB - Innovation Finance Advisory (IFA)
- B. Research Infrastructure (RI) projects - Financing challenges**
- C. EIB Financial Instruments
- D. Case studies
- E. How can IFA support RI?

Funding needs along the RI project life cycle

Specific funding characteristics of RI projects - Key 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**

Funding needs along the RI project life cycle

Specific funding characteristics of RI projects - Key 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

Funding needs along the RI project life cycle

Specific funding characteristics of RI projects - Key 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

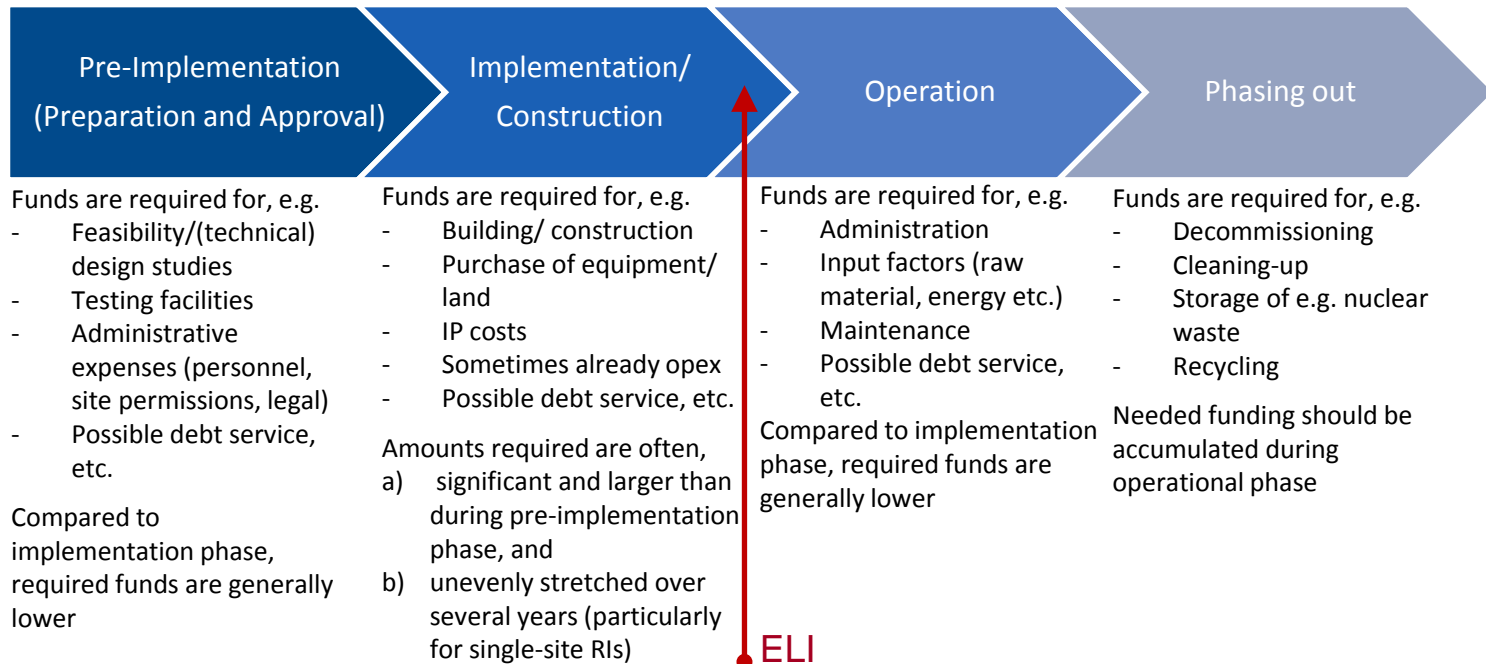
Funding needs along the RI project life cycle

Specific funding characteristics of RI projects - Key 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

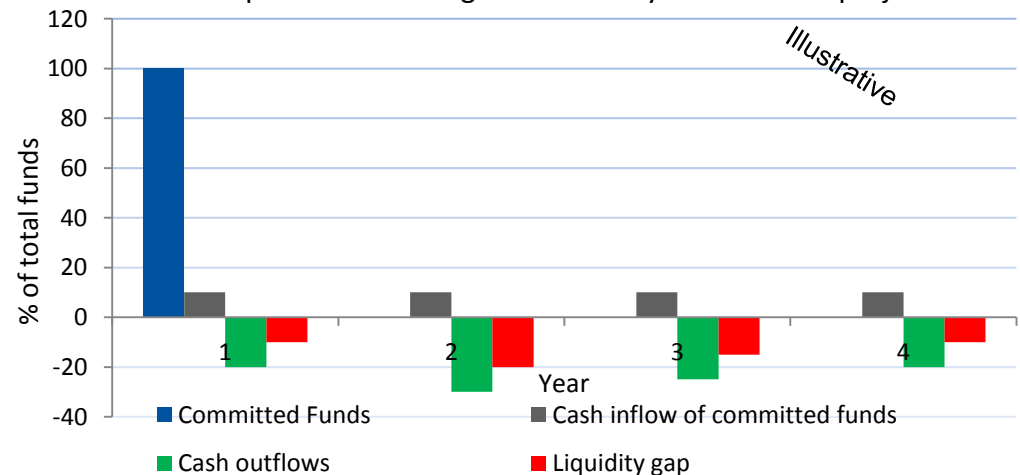
Funding needs along the RI project life cycle

Specific funding characteristics of RI projects - Key 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**

- 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



- In absence of 100% Member funding commitment by Operation time, an additional temporary liquidity gap may be generated

Agenda

- A. EIB - Innovation Finance Advisory (IFA)
- B. Research Infrastructure (RI) projects - Financing challenges
- C. EIB Financial Instruments**
- D. Case studies
- E. How can IFA support RI?

The InnovFin Programme

ELI project: Research Infrastructure and Science Parks fit for purpose financial instruments

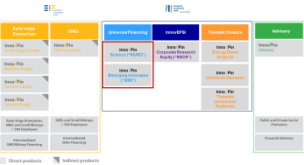
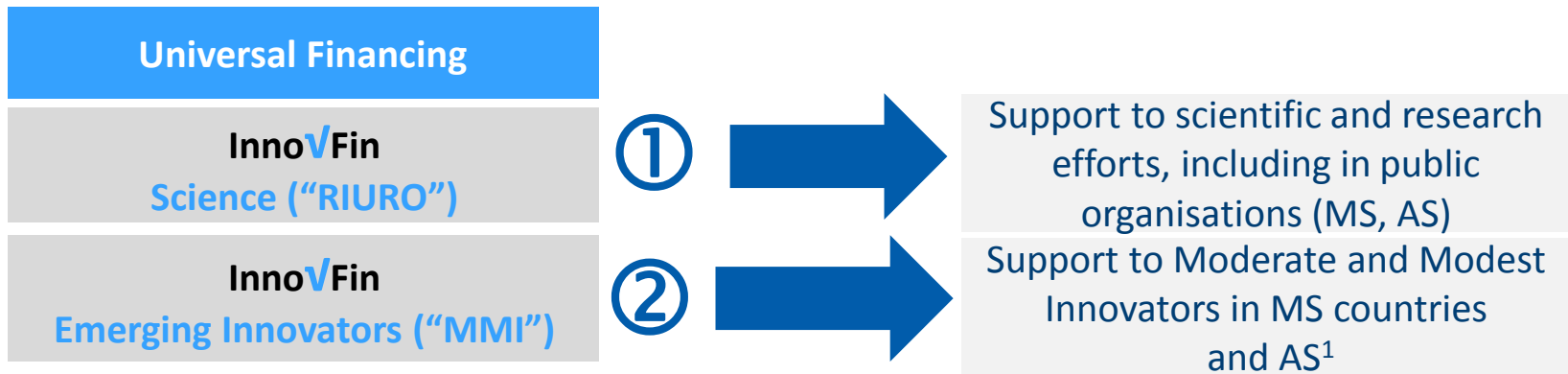


EUROPEAN INVESTMENT FUND		EUROPEAN INVESTMENT BANK			ADVISORY
Early-stage Enterprises	SMEs	Universal Financing	InnovEFSI	Thematic Finance	Advisory
InnovFin Technology Transfer	InnovFin SME Guarantee	InnovFin Science ("RIURO")	InnovFin Corporate Research Equity ("RSCR")	InnovFin Energy Demo Projects	InnovFin Advisory
InnovFin Business Angels		InnovFin Emerging Innovators ("MMI")		InnovFin Infectious Diseases	
InnovFin Venture Capital				InnovFin Thematic Investment Platforms	
InnovFin Fund-of-Funds					
Early-Stage Enterprises, SMEs and Small Midcaps < 500 Employees	SMEs and Small Midcaps < 500 Employees				Public and Private Sector Promoters
Intermediated SME/Midcap Financing	Intermediated Debt Financing				Financial Advisory

Direct products
 Indirect products

The InnovFin Programme

ELI project: Research Infrastructure and Science Parks fit for purpose financial instruments

1) Moderate and Modest Innovators: Countries that qualify as Moderate or Modest Innovators as per the European Innovation Scoreboard
 Notes: MS: Member States; Associated Countries: Associated Countries as per H2020 (http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/3cpart/h2020-hi-list-ac_en.pdf)

Agenda

- A. EIB - Innovation Finance Advisory (IFA)
- B. Research Infrastructure (RI) projects - Financing challenges
- C. EIB Financial Instruments
- D. Case studies**
- E. How can IFA support RI?

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)

EIB - Innovation Finance Advisory

- 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
- IFA also commented on the ERIC articles related to financing, advising on their implications on access to long term debt finance



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)



Case studies – EIB financing of RI Sincrotrone Trieste project

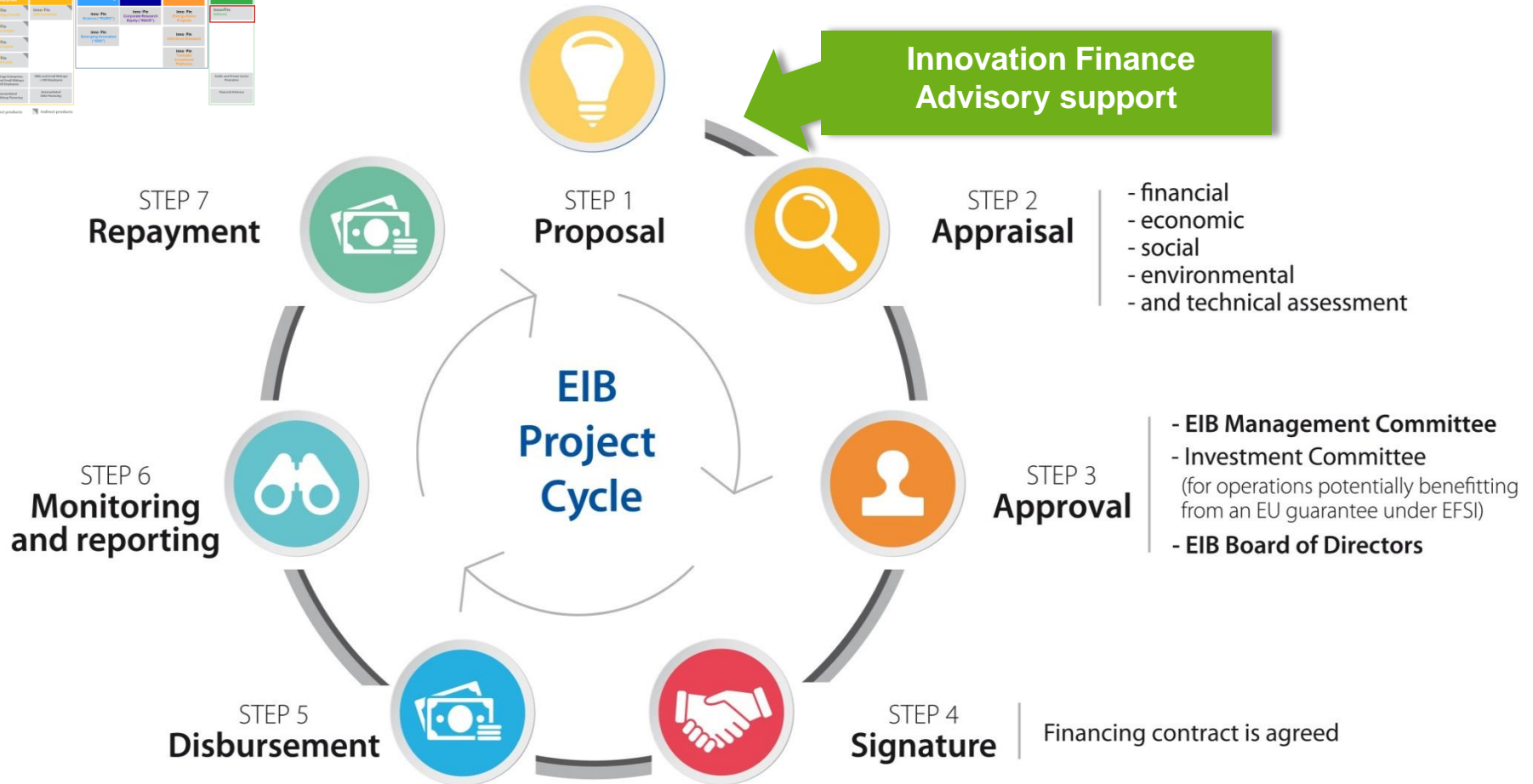
- ❖ Financed under the RSFF- Research Infrastructure Compartment
- ❖ Signed in 2010
- ❖ EIB loan to finance upgrade and extension of the research facility
- ❖ EIB loan of up to EUR20m (i.e. 50% of the total project costs)
- ❖ Term: up to 20 years
- ❖ Security/guarantee: Sufficient member state comfort provided through contractual arrangements in the finance contract
- ❖ EIB loan to an Italian non-for-profit consortium
- ❖ Since transformation of ST into ERIC is planned in the medium term, a non-binding provision in the Finance Contract included to review the potential implications of an ERIC status for ST



Agenda

- A. EIB - Innovation Finance Advisory (IFA)
- B. Research Infrastructure (RI) projects - Financing challenges
- C. EIB Financial Instruments
- D. Case studies
- E. How can IFA support RI?**

Innovation Finance Advisory in the EIB Project cycle

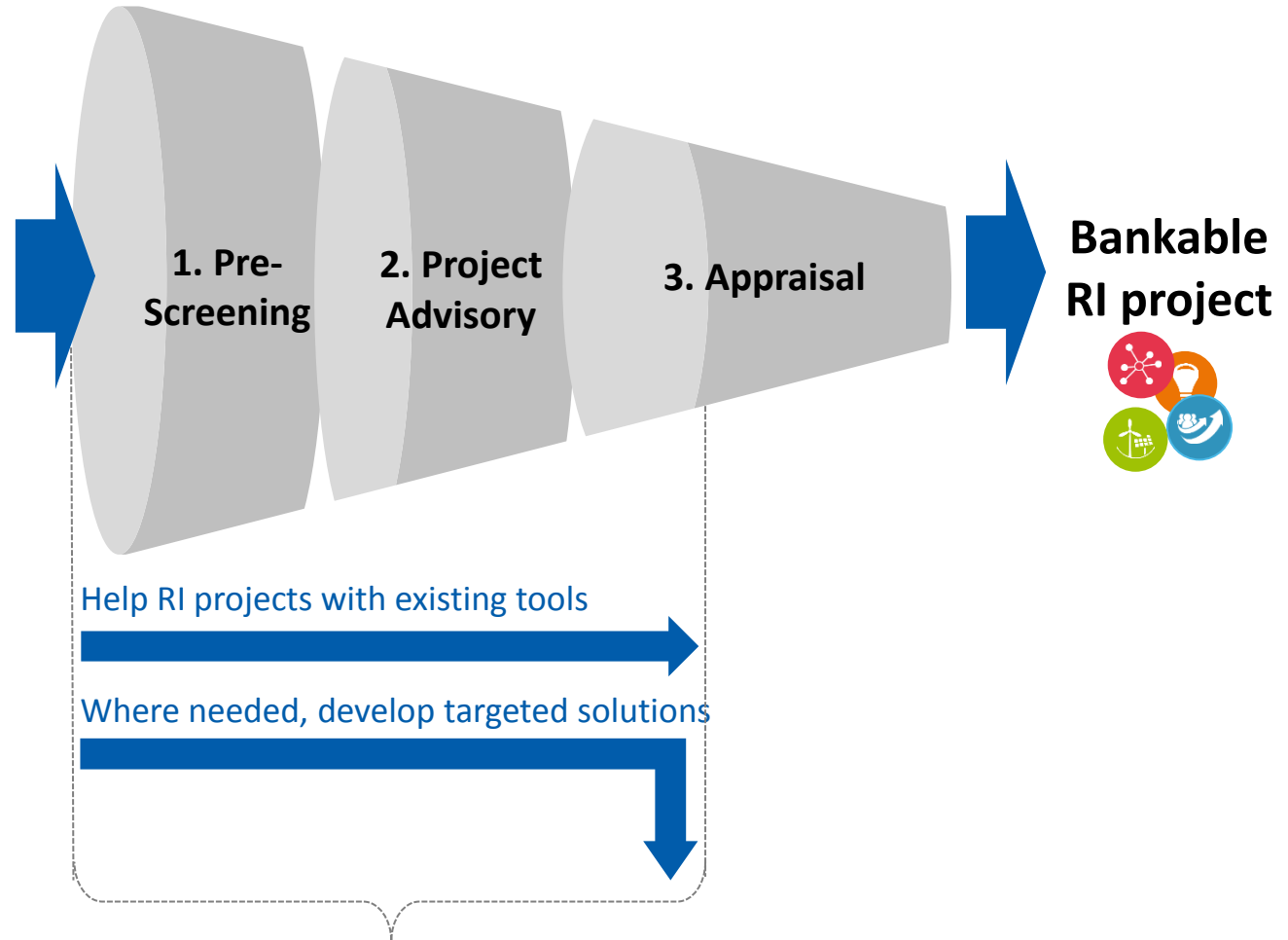
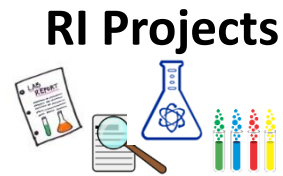



Innovation Finance Advisory - What do we do?



Innovation Finance Advisory - What next?

Early Stage Financing	VCs	Seed/Start-up	Start-up	Scale-up	Mid-size
Seed-Fin	Seed-Fin	Start-Up	Start-Up	Start-Up	Start-Up
Seed-Fin	Seed-Fin	Start-Up	Start-Up	Start-Up	Start-Up
Seed-Fin	Seed-Fin	Start-Up	Start-Up	Start-Up	Start-Up
Seed-Fin	Seed-Fin	Start-Up	Start-Up	Start-Up	Start-Up
Seed-Fin	Seed-Fin	Start-Up	Start-Up	Start-Up	Start-Up
Seed-Fin	Seed-Fin	Start-Up	Start-Up	Start-Up	Start-Up
Seed-Fin	Seed-Fin	Start-Up	Start-Up	Start-Up	Start-Up
Seed-Fin	Seed-Fin	Start-Up	Start-Up	Start-Up	Start-Up
Seed-Fin	Seed-Fin	Start-Up	Start-Up	Start-Up	Start-Up



Innovation Finance Advisory Support

EIB contacts – Innovation Finance Advisory

Shiva Dustdar

Head of Division
Innovation Finance Advisory
Advisory Services Division

Phone: (+352) 4379 87316
Fax: (+352) 4379 57316
E-Mail: s.dustdar@eib.org

European Investment Bank
100, boulevard Konrad Adenauer
L-2950 Luxembourg



Laura Busato

Innovation Finance Advisory
Advisory Services Division

Phone: (+352) 4379 82319
Fax: (+352) 4379 52319
E-Mail: l.busato@eib.org

European Investment Bank
100, boulevard Konrad Adenauer
L-2950 Luxembourg



Arnold Verbeek

Innovation Finance Advisory
Advisory Services Division

Phone: (+352) 4379 82029
Fax: (+352) 4379 52029
E-Mail: a.verbeek@eib.org

European Investment Bank
100, boulevard Konrad Adenauer
L-2950 Luxembourg



Disclaimer

This presentation is incomplete without reference to, and should be viewed solely in conjunction with, the oral briefing provided by the European Investment Bank (“EIB”).

The terms and conditions are intended as an outline for discussion purposes only and made on an indicative basis. This presentation is provided without any liability whatsoever by EIB and shall not constitute any obligation of EIB to extend credit facilities or to carry out a due diligence review of the aspects relevant for the financing of a project.

Neither this presentation nor any of its contents may be duplicated, published or used for any other purposes without the prior written consent of EIB.

European Investment Bank