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Which financial instruments to ensure a better access to finance for RDI in the EU? The case of Research Infrastructures

**Workshop Energy for Sustainable Science
Energy management for large-scale research infrastructures
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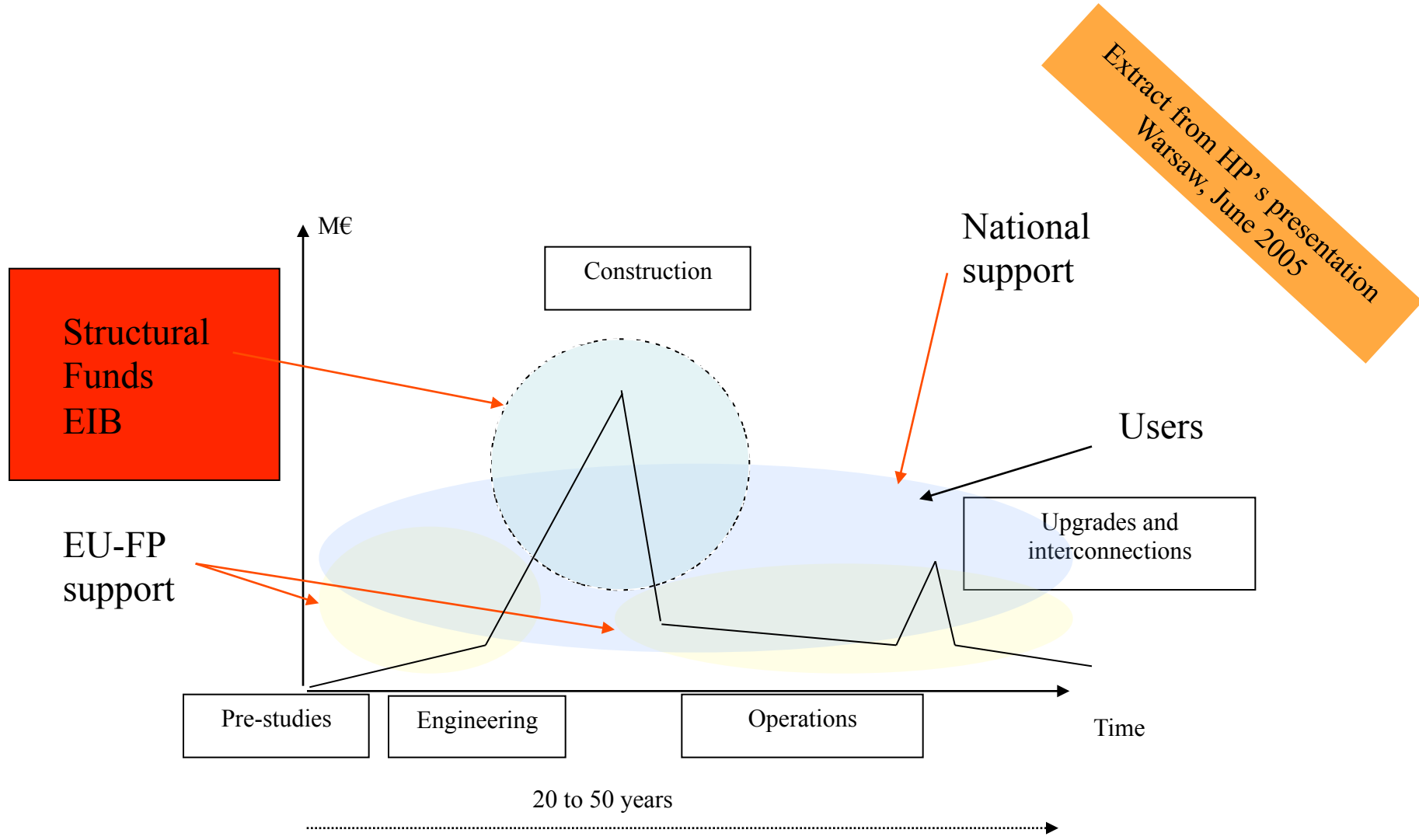
RI are facilities, resources or services of a **unique nature** that have been identified by pan-European research communities to conduct top-level activities in all fields.

RI may be “single-sited”, “distributed”, or “virtual” (the service being provided electronically).

RI are part of the **Risk-Sharing Finance Facility (RSFF)** as one of the key target groups



- Research infrastructures (RI) play an essential role in the advancement of knowledge and technology. They are a key instrument in bringing together a wide diversity of stakeholders to look for solutions to many of the problems society is facing today.
- RI offer **unique research services to users from different countries**, attract young people to science, and help to shape scientific communities.
- New knowledge and, by implication, innovation, can only emerge from high-quality and accessible RI: for example, radiation sources, data banks in genomics, observatories for environmental sciences including satellites, systems of imaging or clean rooms for the study and development of new materials or nano-electronics are at the core of research and innovation processes.
- Moreover, RI **help to create a new research environment** in which all researchers - whether working in the context of their home institutions or in national or multinational scientific initiatives - have shared access to unique or distributed scientific facilities (including data, instruments, computing and communications), regardless of their type and location in the world.
- RI are therefore **at the centre of the knowledge triangle of research, education and innovation, producing knowledge through research, diffusing it through education, and applying it through innovation.**



Extract from HP's presentation
Warsaw, June 2005



Introduction



1- Definition (1/2)


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- Financial instruments **must be distinguished from**:
 - ✓ pure grants
 - ✓ cases where the EU support takes the form of back-to-back lending (*example: Macro-Financial Assistance (MFA) facility*) or guarantees backed by a budget p.m.-line (*example: Guarantee Fund for External Action*)
 - ✓ prizes
 - ✓ public procurements
- A **specific definition** is provided in the Commission Proposal for a Regulation of the European Parliament and of the Council on the financial rules applicable to the annual budget of the Union, COM(2010)815 final (eg. **Financial Regulation**)



1- Definition (2/2)

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- **EU Financial instruments shall mean** *Union measures of financial support provided from the budget in order to address, when necessary and duly justified, one or more specific policy objectives. Such instruments may take the form of loans (including loans with interest rate rebates), guarantees, equity or quasi-equity, equity/debt investments or participations, facilitated where appropriate by the Union through risk-sharing instruments, possibly combined with grants.*
 - **A typical feature:** delivery through (a cascade of) financial institutions, starting at the Commission and involving the EIB Group and/or other financial institutions and financial market participants (delegation of management tasks, but governance, while Commission focuses on policy work.
- 
- Instead of providing loans, guarantees, equity etc. directly to final beneficiaries, through joint financial instruments the **Commission** should seek to support financial institutions in **providing such support in particular via risk-sharing or guarantee schemes. *But, Participation not excluded***



2- Not a new concept! (1/2)

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- **Already used** by EU budget **for more than 10 years**
- EU budget has been using financial instruments such as **guarantees and equity investments for SMEs**
 - ✓ *under the Growth and Employment initiative (1998-2000)*
 - ✓ *under the Multiannual programme for enterprise and entrepreneurship, in particular for small and medium-sized enterprises (SMEs) (2001-2006)*
 - ✓ *under the Competitiveness and Innovation Framework Programme (2007-2013)*
- In the 2007-2013 financial framework, a new generation of financial instruments was put in place in cooperation with the EIB:
 - ✓ *Risk-Sharing Finance Facility (RSFF) for **projects in the research area***
 - ✓ *Loan Guarantee Instrument for **TEN-T projects** (LGTT)*



2- Not a new concept! (2/2)

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- Other instruments have been set up:
 - ✓ to invest in **infrastructure equity** (*such as the Marguerite Fund*)
 - ✓ to provide **micro-credit** (*such as the European Progress Microfinance Facility*) via dedicated investment vehicles (in general to investment funds, SICAV, FCP, ...) allowing for the pooling of resources with other public or private bodies, in particular international financial institutions or Member States' public financial institutions.

- In the **area of structural funds**, financial instruments have been set up to support enterprises, mainly SMEs, urban development and energy efficiency through dedicated investment vehicles

- In **the external field**, the Commission has contributed to instruments like the European Fund for Southeast Europe (EFSE), which provides microcredit and assists low-income households in improving their housing conditions.



**European financial instruments for
Research and Innovation:
The current landscape (until 2013)**



Key European support programmes for Research and Innovation (R&I) until 2013

- **7th Framework Programme for Research, Development and Demonstration (“FP7”)** 2007-2013: Grant funding for Research and Development investments including a new financial instrument (i.e. “Risk-Sharing Finance Facility”, RSFF); total volume of FP7: 54.6 billion EURO, of which 1 billion for Financial Instrument
- **Competitiveness and Innovation Framework Programme (“CIP”)** **2007-2013**: Financial instruments for innovation investments and investments made by SMEs (within the “Entrepreneurship and Innovation Programme” of the CIP); total volume of 3.6 billion EURO, of which 1.13 billion for Financial Instruments
- **Structural Funds to support EU Cohesion Policy 2007-2013**: Financial instruments for SME investments, through i.e. JEREMIE and JASMINE



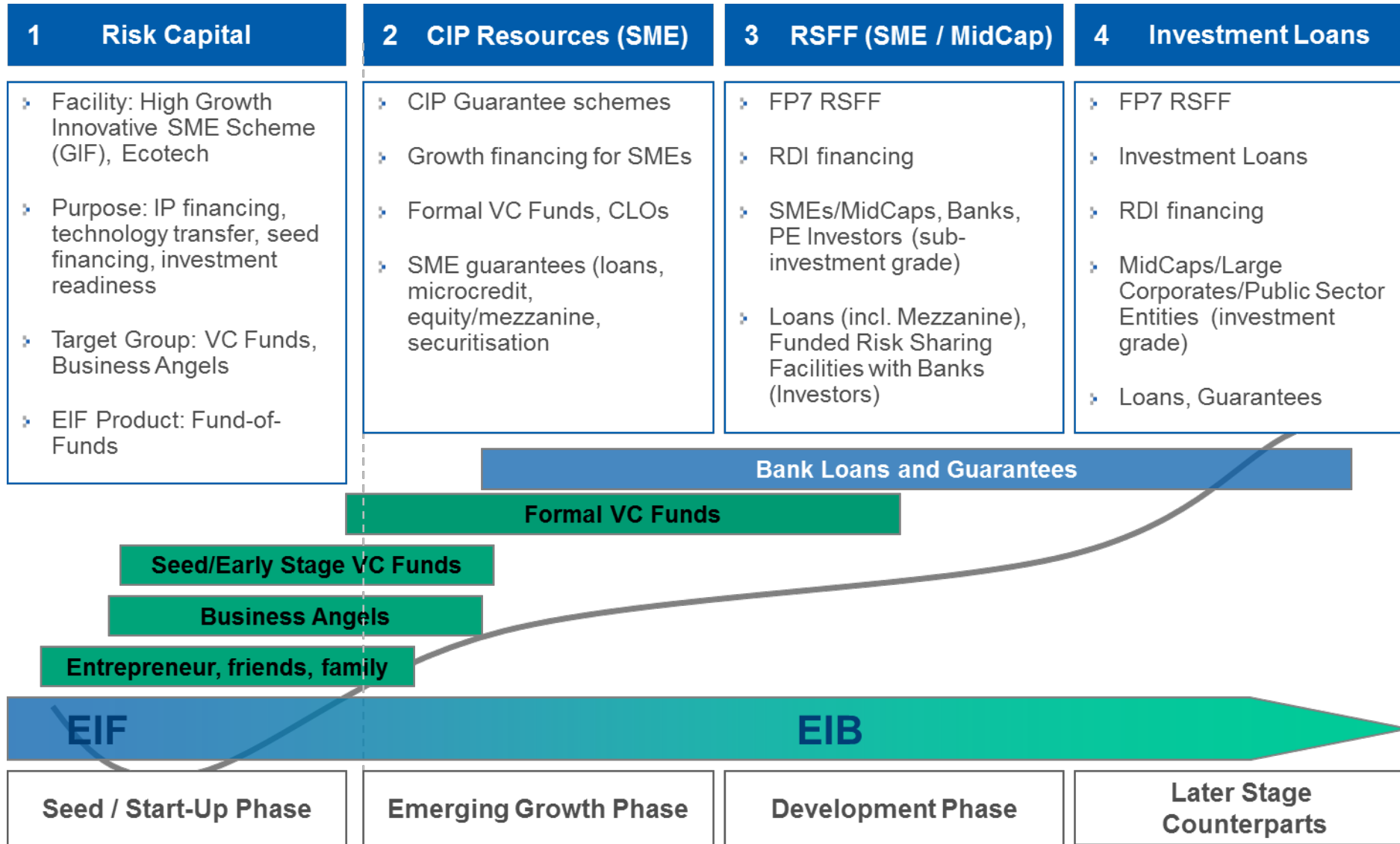
Current EU Financial Instruments for R&I: Goals and features



- Support for **legal entities of any size and ownership** investing in Research, Development and Innovation (**RSFF supported by FP7**)
- Support specifically for **small and medium-sized enterprises** (**CIP Financial instruments, future RSFF for SMEs (“RSI”)**)
- Provide more funding for investments in R&D and/ or innovation in various forms: **Equity/ mezzanine capital and guarantees** (**CIP Financial instruments**); **risk-sharing loans** (**RSFF**)
- **Mobilise capital market finance** by combining EU budget resources with the financing resources made available through the EIB Group (partner at EU level), in close co-operation with banks and other financial institutions in the EU (**RSFF and CIP Financial instruments**)
- **Demand-driven approach** (“first comes, first served”), **RSFF and CIP Financial instruments**



EU financial instruments: Support for companies at their various stages



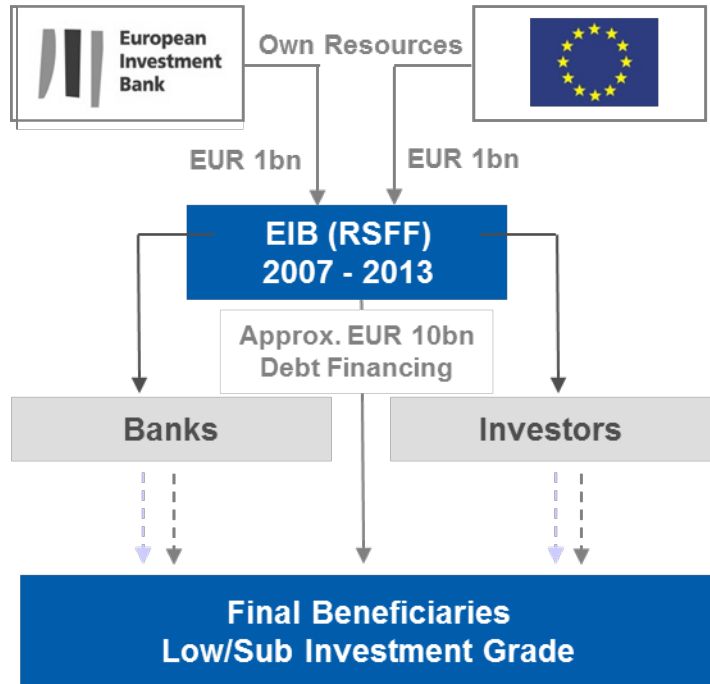
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**European financial instruments for
Research and Innovation:
The Risk-Sharing Finance Facility (RSFF)
supported by FP7**



EUR 10 billion Risk Sharing Finance Facility



- EIB RSFF funds complement other sources of debt capital available for low/sub investment grade RDI intensive entities
- EIB RSFF funds are well suited to potential beneficiaries because:
 1. Share risk on highly attractive terms & conditions (EIB's costs and not-for-profit risk pricing)
 2. Long maturities of up to 10 years with longer for Research Infrastructure
 3. Direct EIB participation of up to EUR 300m per transaction (depending on loan grading)
 4. Strong technology/industry expertise
 5. Signalling Effect: EIB as a quality stamp
 6. Debt and Mezzanine Debt Product

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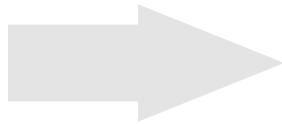


RSFF implementation

Beneficiaries of RSFF financing



- Mid-Caps and large corporates (typically unrated / sub investment grade / turnaround situations)
- SMEs
- Research Institutes
- Universities
- Special Purpose / Project Companies
- **Research Infrastructure promoters and related companies/industries**



Entities of any size and ownership who are able to borrow and can, in principle, repay a loan

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RSFF implementation

Eligible-cost categories



Fundamental research

EC window

Definition stage / feasibility studies

EC window

Industrial research

EC window

Pre-competitive development activity

EC window

Pilot and demonstration projects

EC window

Innovation

EIB window
partly EC window



RSFF results and portfolio

Mid-2007 – End-of 2010

Volumes:

- Loans **approved**: more than **EUR 7.6 billion (active)**
- Loans **signed**: more than **EUR 6.3 billion for 67 projects**
in **21 European countries** (19 MS & 2 AC)
- Main sectors: Engineering/ Industry 38%, Life Sciences/ Chemicals 24%, ICT 17%, Energy 15%, Research Infrastructure 5% and risk-sharing with banks 1%
- **Strong project pipeline also for 2011**
- RSFF financing usually provided directly by the EIB to the beneficiary/ borrower (only few intermediated loan operations)



RSFF interim evaluation 2010

- RSFF interim evaluation by 6 independent experts between February and July 2010: in-depth assessment of the RSFF implementation, conclusions and recommendations
- Evaluation report was **very positive**:
 - RSFF: uniquely **innovative, demand-driven** instrument
 - RSFF **successfully introduced** as a new scheme under FP7 and helped drastically expand the financing for RDI;
 - Positive **dual leverage effect**: allowing EU funding for loans to finance R&D and helping private investors/ companies to finance risky RDI - even in times of economic crisis (2008/2009); thus appears as an efficient anti-cyclical instrument;
 - RSFF **implementation**, at a particularly difficult time, carried out in a highly **efficient and effective manner**;
 - **Model example to be further developed and intensified**



■ Council:

- **European Council** (04/02/11): invites the Commission ‘to present proposals by the end of 2011 for (...) **scaling up the RSFF**’
- **Competitiveness Council** (09/03/11):
 - ‘agrees’ on the release of € 500m (2011-2013);
 - ‘calls on the Commission, in liaison with the EIB, to urgently examine ways and means to improve the take-up by currently underrepresented target groups, in particular SMEs, universities and **research infrastructures** with a view to achieving significant progress in 2012’ .
 - ‘is looking forward to the Commission proposals called for by the European Council for scaling up the RSFF’

- **EP** (MEP Merkies and Audy reports): positive feedback & similar requests



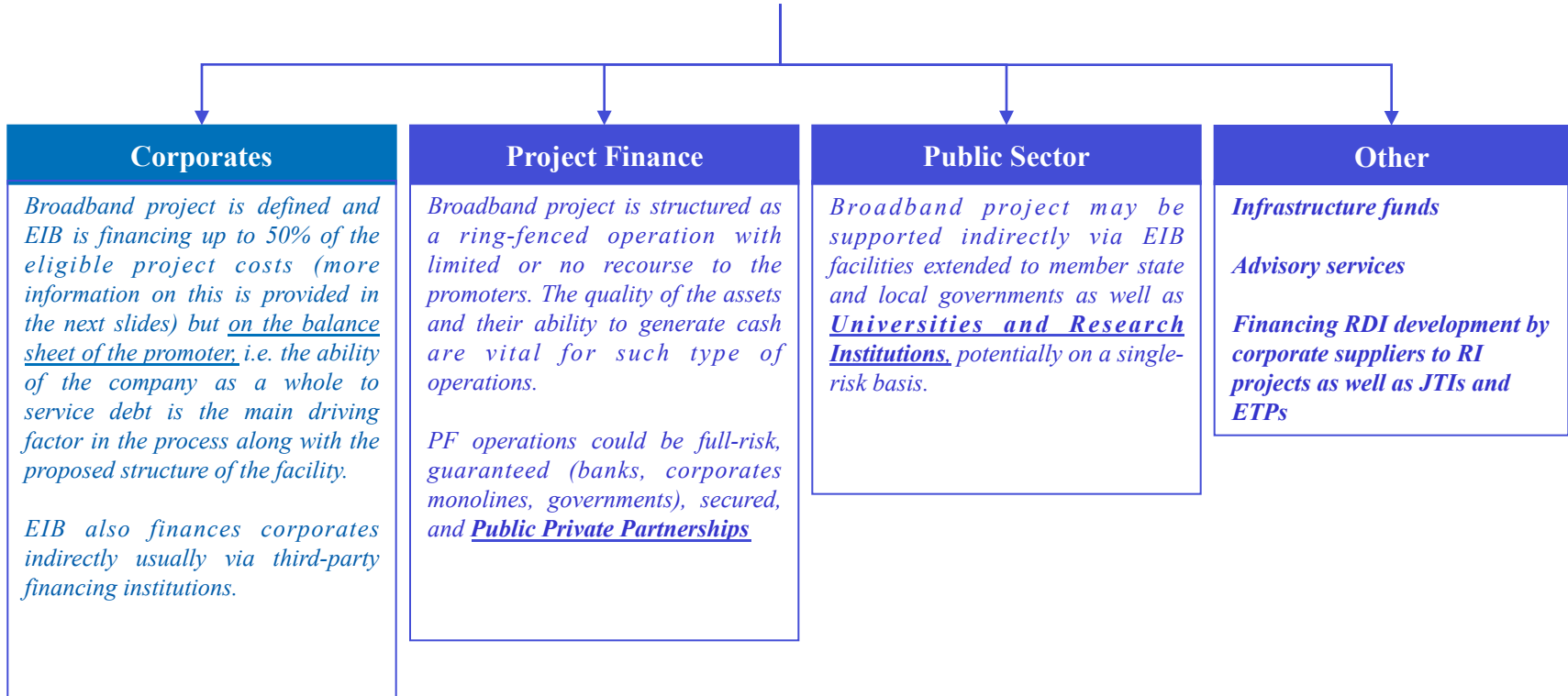
ESFRI Research Infrastructures – EIB contacts with promoters

Name	Invest Volume	Start of Operation	Description
BBMRI	€ 170m	2013	Bio-banking and Biomolecular Resources Research Infrastructure
EATRIS	€ 255m	2013	European Advanced Translational Research Infrastructure in medicine
ECRIN	€ 50m	2014	Pan-European infrastructure for clinical trials and biotherapy
ESS	€ 1300m	2020	European Spallation Source
E-ELT	€ 950m	2018	European Extremely Large Telescope for optical astronomy
ELI	€ 400m	2015	Extreme Light Intensity short pulse laser
MYRRHA (*)	€ 960m	2020	Multipurpose hybrid Research Reactor for High Technology applications
SKA	€ 1500m	2016	Square Kilometre Array for radio-astronomy
SINCROTRONE TRIESTE EXTENSION	€ 40m	2012	Extension of FERMI (sub-project of EuroFEL)

- ❖ The ESFRI List contains in total 44 projects with a total investment volume of EUR 20bn. Out of the 44 projects, 17 projects have already reached a detailed planning stage (of which BBRMI, E-ELT and ELI).
- ❖ EIB and EC have approved RSFF financing for E-ELT (up to EUR 100m) and Sincrotrone Trieste Extension (up to EUR 20m)
- ❖ Other RIs have so far been financed by EIB on a non-recourse basis. Key examples are: CERN in Geneva, Free Electron Laser in Trieste, Nano-Technology R&D Centre of IMEC in Leuven, Laboratory infrastructure of EMBL in Heidelberg.



Financing Models and Concepts for Research Infrastructures

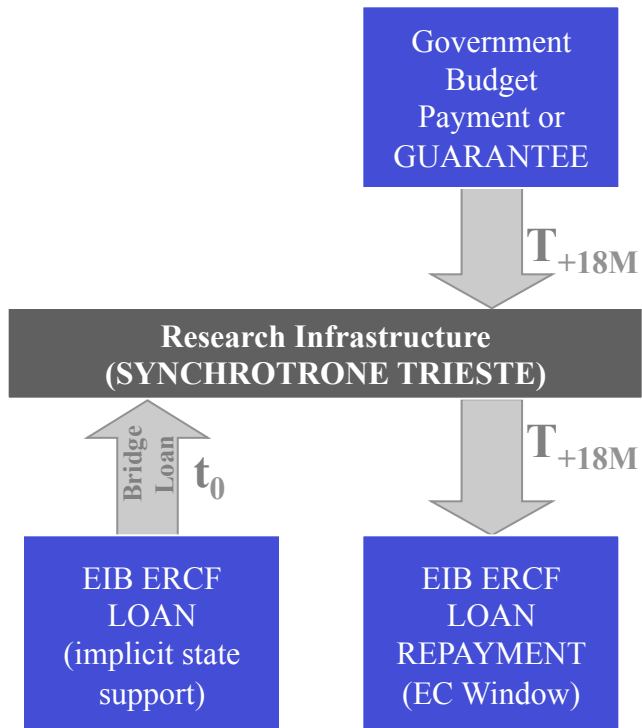




Financing Research Infrastructures

ERCF – Bridge Financing of State Support

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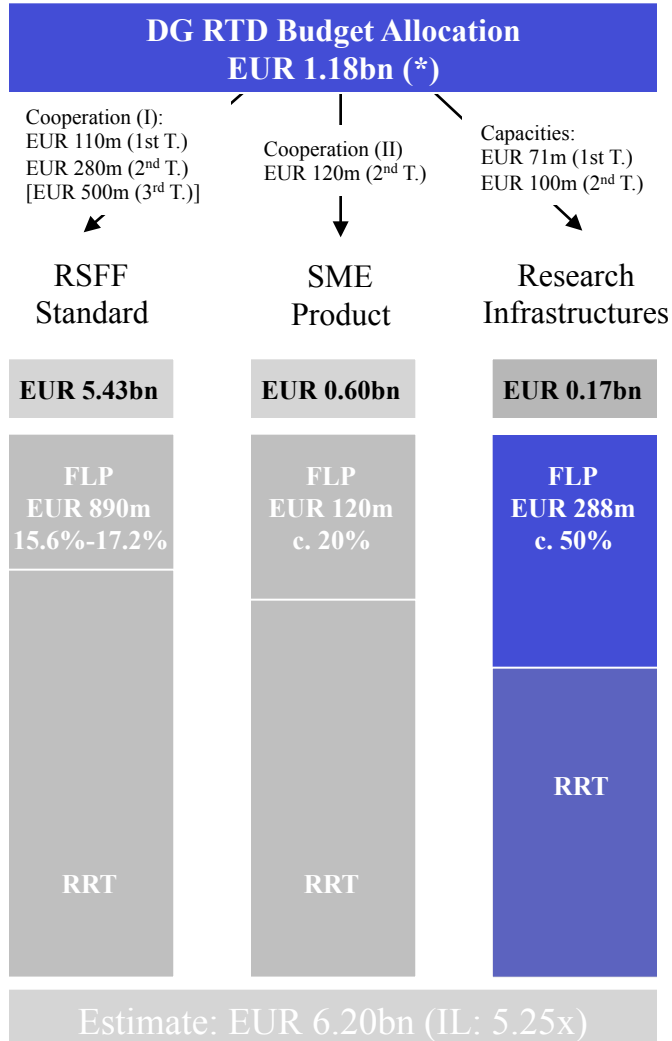
- ERCF is a product development under the RSFF scheme designed to bridge-finance public sector budget payments. The idea is to lend against implicit public sector support if the overall project is (i) high political importance, (ii) the resp. political decisions for financing have been taken, (iii) a high share of budgetary funds (e.g. 50%) are already available.
- The first transaction under ECRF was approved for the SYNCHROTRONE TRIESTE EXTENSION. EIB pre-financed EUR 10m (total invest. EUR 40m) without explicit state support. The Loan was graded C (unsecured) for a period of 18months following disbursement.
- Key criteria for CRD to accept the Synchrotron transaction as a C graded deal were:
 - Bridge Financing Period: 18 months
 - High visibility and commitment by Italy
 - Small pre-financing amount in relation to total project size
 - Expectation of a solution under RSFF EC Window
- Reliance on “implicit public support” will remain an exception and should be justified by a strong legal support framework (e.g. statutory obligations for RI sponsors to cover all authorised budget)**



Financing Research Infrastructures

Portfolio First Loss Piece Model (PFLP) – Proposal for RIs

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- ❖ The FLPP approach could facilitate the introduction and risk-management of **Research Infrastructures** as part of the RSFF portfolio.
- ❖ Research Infrastructures: The RI portfolio could foresee a mix of transactions in the field of
 - (i) ERCF Transactions (e.g. Sincrotrone Trieste),
 - (ii) Economically viable Equity/Debt Risk Transactions,
 - (iii) blended public sector/private sector deals,
 - (iv) corporate RIs (Alphasat).
 - (v) blended ERDF grant/loan deals with associated Technical Assistance
- ❖ The risk of the RI portfolio is likely to be higher than for standard RSFF transactions and is assimilated for modelling purposes to high-risk equity transactions. The RI portfolio is likely to require a higher FLP coverage from the EC (initial estimate: around: **50%**).
- ❖ **The FLPP is scheduled to be adopted by the Commission in November and should entry into force during the innovation Union Convention**



**European financial instruments for
Research and Innovation:
Post-2013 priorities and added value of future
EU financial instruments**



Future EU financial instruments for Research and Innovation

- Trend at European level to make increasingly use of financial instruments for the next budgetary period (cf EU Budget review – EUROPE 2020 – future proposal of “Multiannual Financial Framework” (MFF))
- Advantages of EU financial instruments:
 - Limited budget resources could be used (co-financing; risk-sharing or guarantees **to mobilise private funding** (« leverage effect »))
 - Unless risks/ losses exceed expectations, EU budget resources could be **“recycled” and reused** for further projects (revolving funds)
 - Flexibility to better meet the funding needs of target groups/ beneficiaries and **address funding gaps in the market (rational for intervention)**
- European Commission is currently discussing the future political priority areas where European financial instruments could be of added value. Innovation being obviously one of them.



Future EU financial instruments for Research and Innovation

- Future EU financial instruments and their governance (**guiding principles**: streamlining, coherence, critical mass, mobilisation of private capital, delegation to Financial Intermediaries) need to be determined + Common rules (cf EU Debt and Equity Platforms)
- Future EU financial instruments should ideally address more than one policy area (“cross-flagship” approach), for instance **Research and Innovation**, and they should **support particular EU policy objectives** such as the SET PLAN (low carbon technologies) and the Digital Agenda (ICT/ Broadband investments)
- For Research and Innovation, a first outline of possible future financial instruments has been made in the “**Europe 2020 Flagship Initiative Innovation Union**” Communication of the EC (6 October 2010) – see also Green paper on CSF-RI



Future EU financial instruments for Research and Innovation

- Market/ funding gaps which could/ should be addressed through EU financial instruments for R&I are:
 - **Investment in knowledge transfer and start ups**
 - **Venture capital for fast growing firms expanding on EU and global markets**
 - **Risk-sharing finance for investments in R&D and innovation projects and loans for innovative fast growing SMEs and mid-caps**



Future EU financial instruments for Research and Innovation – first ideas

- Please note: Decisions on the future structure of EU financial instruments, related responsibilities, available budget and, finally, the concrete instruments still need to be taken !
- First ideas:
 - In the future H2020, **2 main financial instruments** could be proposed:
 - one for **debt** (lending, risk-sharing, guarantee ...)
 - another one for **equity** (venture capital).
 - **building on existing successful FI:**
 - debt: FP7 RSFF
 - equity: CIP GIF



Future EU financial instruments for Research and Innovation – first ideas

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■ Debt FI:

- **Objective:** to improve access to debt financing (loans, guarantees, counter-guarantees and other forms of risk finance) for private and public sector entities and public-private partnerships engaged in activities that have a financial risk and need investment in research and innovation in order to come to fruition
- **Target groups:** any legal entity that can borrow and repay money, in particular SMEs with the potential to carry out innovation and grow rapidly; mid-caps and large corporations; universities and research institutes; RDI infrastructures; and public-private partnerships and special-purpose projects
- The **delivery mechanism** could be a partnership agreement with the EIB Group and/or to other financing partners with the status of international financial institutions, and/or national intermediaries



Future EU financial instruments for Research and Innovation – first ideas

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■ Debt FI:

■ The **volume of financial resources could have two components:**

- a **"demand-driven" amount** addressing the market deficiencies/ needs that the current FP7 RSFF is tackling, with a ring-fenced element for SMEs and mid-caps (and possibly for microenterprises). The sub-ring fenced window for SMEs and MidCaps could include support to an integrated scheme "for innovative SMEs and MidCaps with a high growth potential" ("SBIR-like");
- a **"policy-driven" amount** made up of ring-fenced contributions from the specific programmes of the proposed Common Strategic Framework (CSF) for Research & Innovation and maybe from other programmes, and answering to their specific needs. These contributions could be augmented by the CSF specific programmes or by other programmes/policies, according to their needs, during the next MFF .



Future EU financial instruments for Research and Innovation – first ideas

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■ Equity FI:

- **Objective:** to overcome market deficiencies in financing the growth of EU firms by, firstly, promoting early-stage investment and the development of new venture capital funds; and secondly, by attracting funds from strategic and institutional investors to the market via funds-of-funds.
- **Target groups:** firms of all sizes, primarily SMEs
- The **volume of financial resources could have two components:** early stage and growth phase
- The **delivery mechanism** could be a mandate to the EIF and/or to other financing partners with the status of international financial institutions, and/or national intermediaries. Some form of "European VC Fund" may also be designed for the growth phase.



Future EU financial instruments for Research and Innovation in H2020– first ideas (4/4)

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- Broadening the scope of RI to be supported (including investment grade and equity level of risks (starting in 2012)); introducing priorities?
- Supporting RI upstream and downstream actors/activities (***already in RSFF 2012-2013***)
- Additional synergy with CSF-CP (Cohesion Policy) – first ideas
 - Allowing co-funding of activities from funds stemming from the CSFCP and the CSFRI as well as from other EU funding sources in different modalities covering the whole project phase or contributing to different project phases in a complementary way (“financial engineering” – removing/adapting current article 54.5 ?) – Recommendation of SEG
 - Allowing the possibility for Regions to use existing EU financial instruments when implementing their strategy in the context of the “Structural Funds” with a secured / ring-fenced amount – H2020



**Thank you very much for
your attention !**

