

ECSEL JU Update

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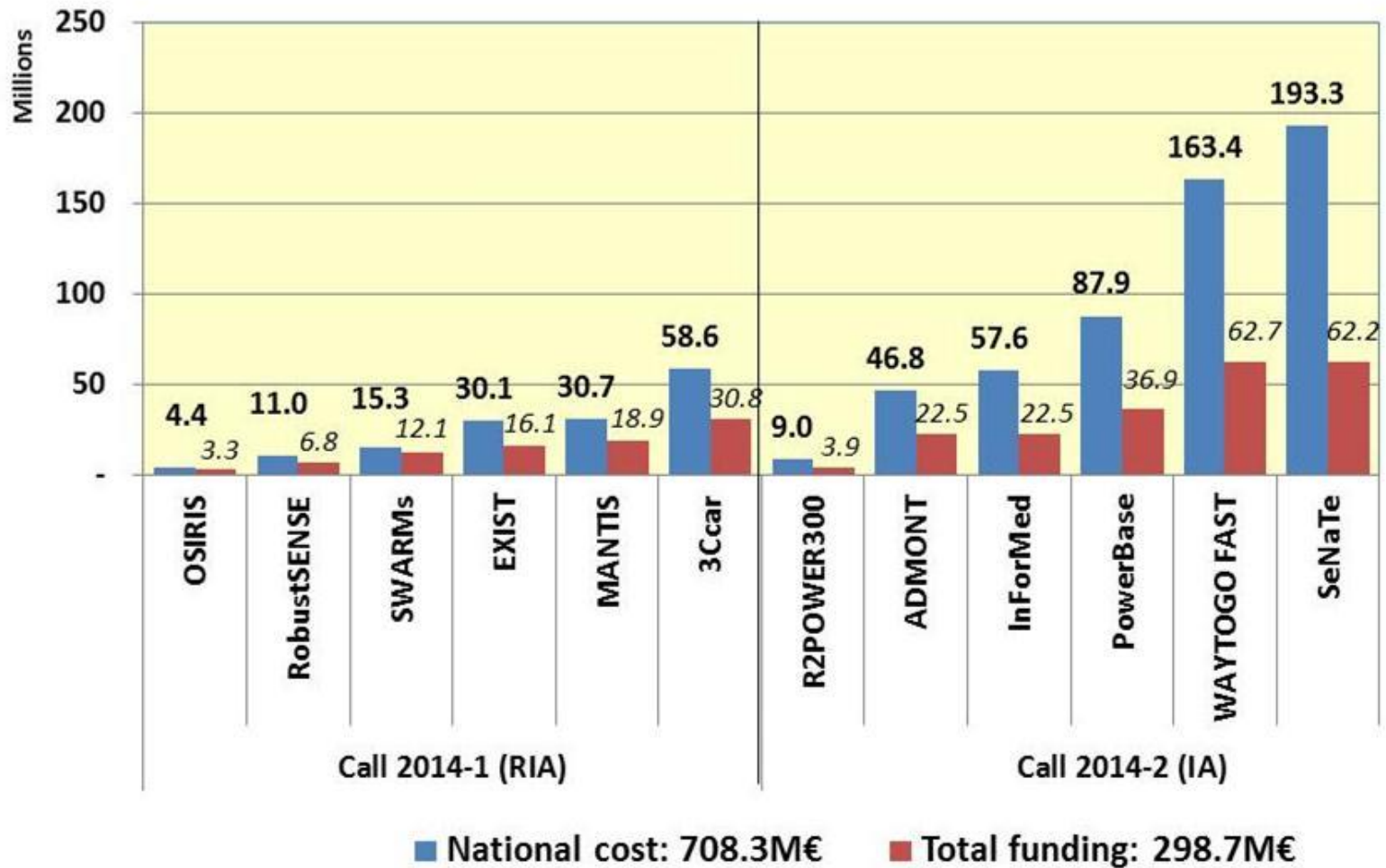
ARTEMIS & ITEA Co-summit , Berlin, 11 March 2015

Content

- 2014 Outcome
- 2015 Progress
 - 1. All topics open
 - 2. RIA versus IA
 - 3. No restrictions
- 2015 Plans and Schedule
- Conclusion: what's next?



ECSEL Projects Arising from the Calls 2014



ECSEL Calls 2014: Conclusion

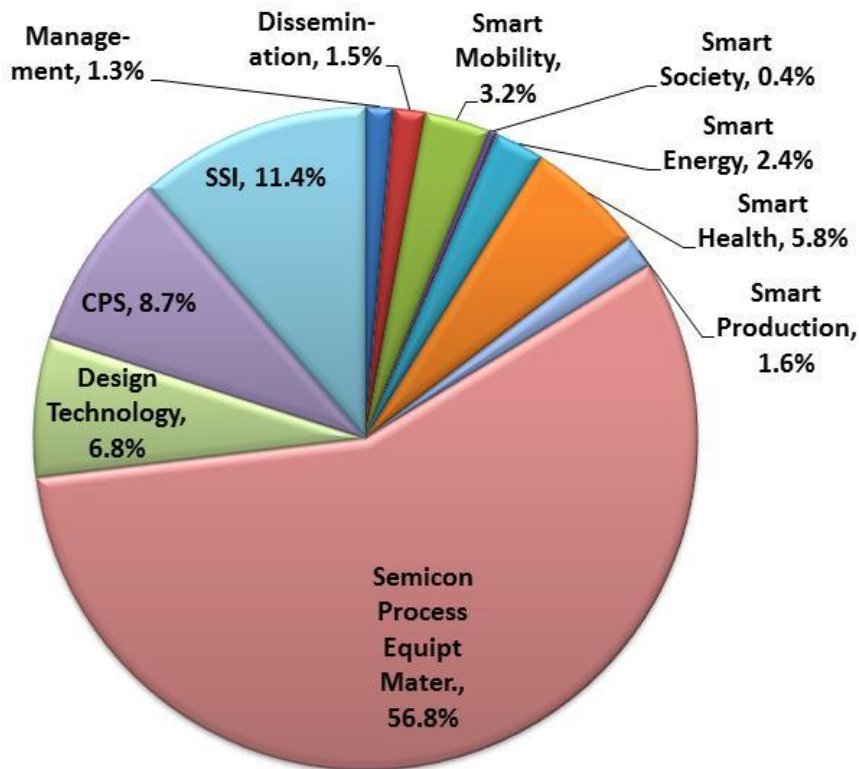
Eligible costs: 708M€ (National), 650M€ (H2020), 741M€ (max)

		Call 2014-1: RIA	Call 2014-2: IA	TOTAL
National Grants	Initial budget	17.5	42.5	164.5* (104.5 unassigned)
	Awarded	39.8	104.0	143.7
EU Grants	Initial budget	40	95	135
	Awarded	48.3	106.7	155.0
TOTAL	Awarded	88.0	210.7	298.7
Projects Selected for Funding		3Ccar EXIST MANTIS OSIRIS RobustSense SWARMs	ADMONT InForMed POWERBASE R2Power300 SeNaTe WayToGo Fast	<ul style="list-style-type: none"> • 48 FPP submissions • 12 projects selected • Success rate: 1 in 4

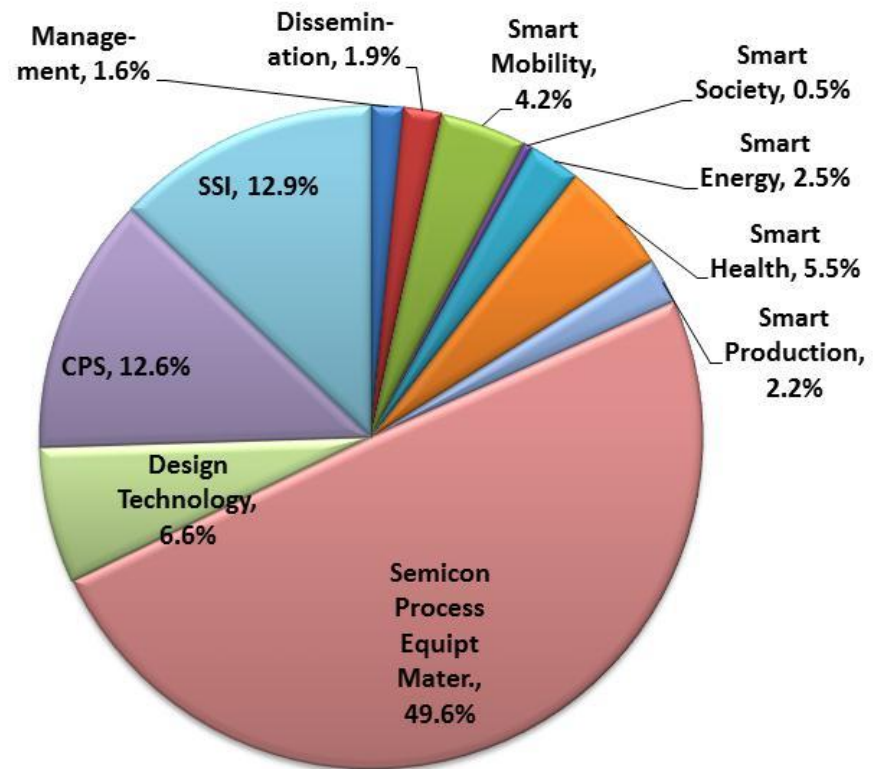
*: 158.51M€ published, plus additional contributions provided during the selection process

2014 MASP Coverage: Analysis by ECSEL JU Office

National Cost: 708.3M€



Total Funding: 298.7M€



2015 Calls Preparation

Written Procedure Approving WP 2015

- Excellent progress in administrative terms:
 - GB converged on the WP2015
 - to be submitted today to approval by accelerated written procedure
 - EU provisional commitment:
 - From 2015 budget: 95M€
 - From next years budget: 50M€
 - TOTAL: 145M€ (-6.5% versus 2014)
 - The ECSEL Participating States provisional commitments already sufficient to launch the calls (way ahead of the previous years!)
 - Total anticipated to be commensurate with EU contributions
- ECSEL stakeholders not yet aligned with respect to content:
 1. Topics open for proposals: **all**
 2. Proportion RIA vs IA funding: **EU ~ 1/3 RIA, 2/3 IA**
 3. Additional rules to restrict topics, participants, projects etc.: **none.**



WP2015 Under Approval:

1. All Topics Open for Proposals

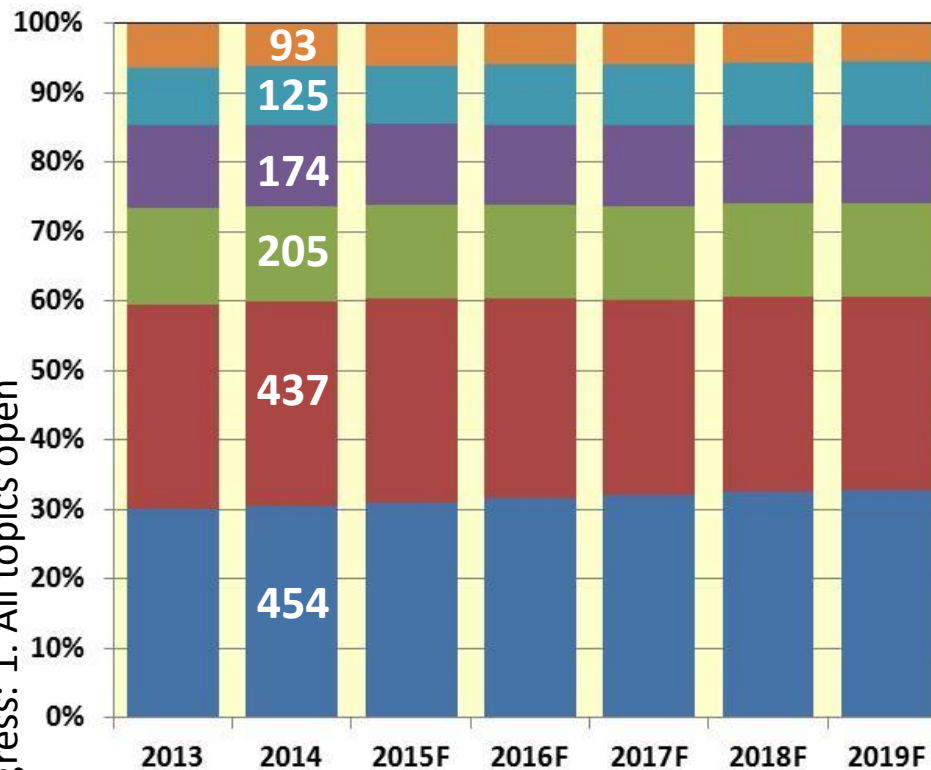
- The proposal to 'focus' by opening
 - all technology topics plus
 - 2-3 of the 5 application topicsdid not have the required 75% majority in the GB
- Possibly, the motivation was not clear to all GB delegations

2015 Progress: 1. All topics open



The Electronics Systems and the ECSEL MASP

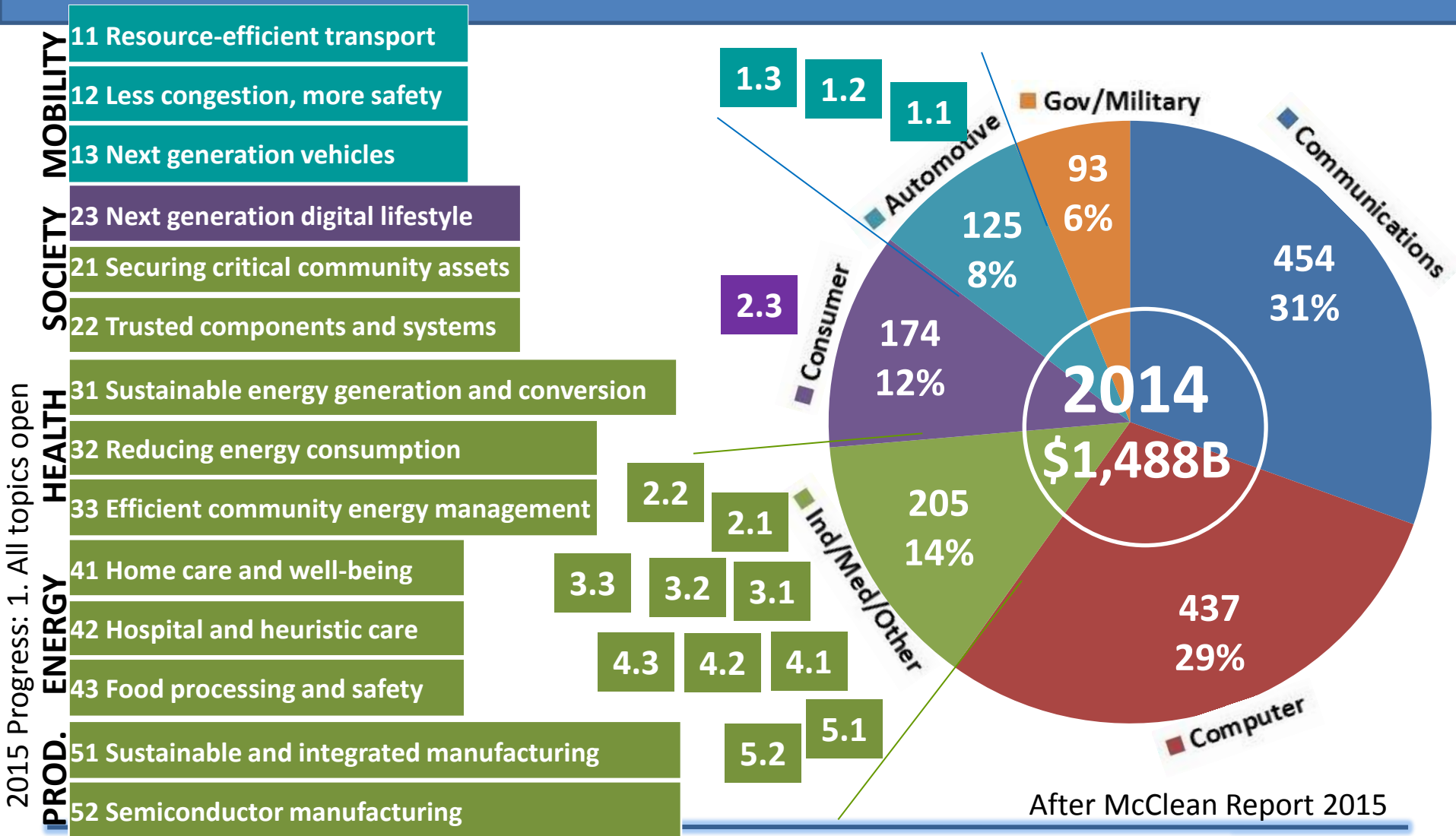
\$1,488B



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Mapping ECSEL MASP on Systems Market Segments



WP2015 Under Approval:

2. Ratio RIA versus IA

- ECSEL JU has as among its objectives:
 - bridging the gap between research and exploitation
 - strengthening innovation capabilities and creating economic and employment growth
- The European contributions are directed preponderantly towards Innovation Actions



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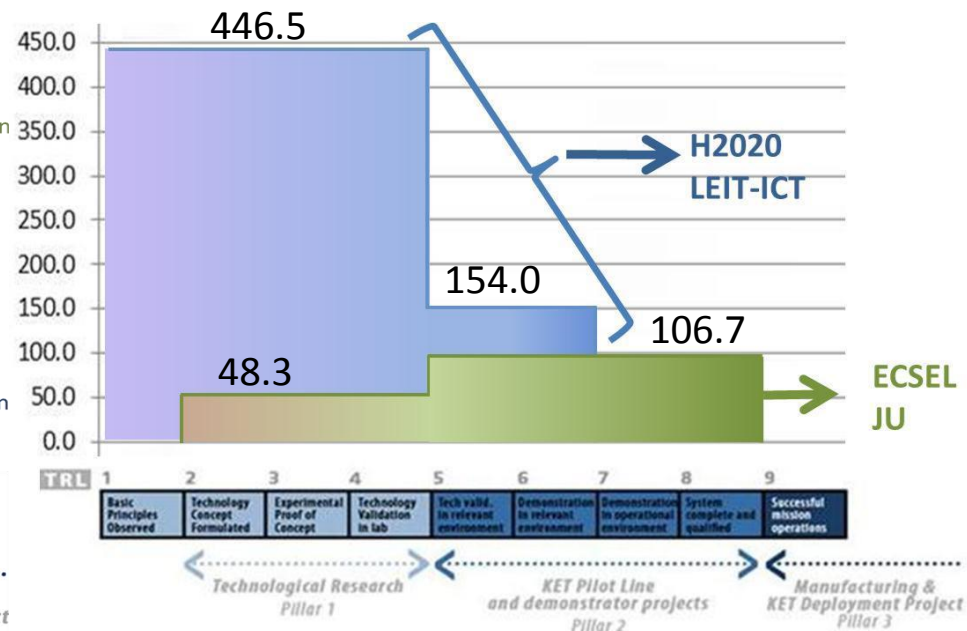
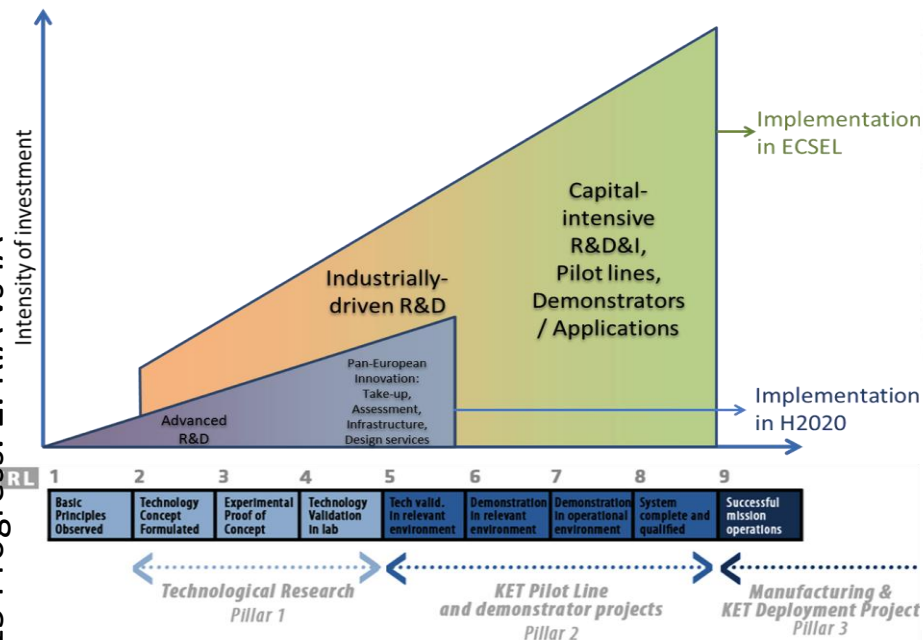
One Instrument among Other

Theory...

... and Practice

2014 Data

2015 Progress: 2. RIA vs IA



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WP 2015 (Draft): EU Contributions

ACTUAL 2014

Research and Innovation Actions	
Large Industry	32,5%
SME	32,5%
University/RTO	32,5%

Innovation Actions	
Large Industry	16,25%
SME	22,75%
University/RTO	32,50%

WP 2015

Research and Innovation Actions Centre of Gravity TRL 3-4	
Large Industry	25%
SME	30%
University/RTO	40%

Innovation Actions Centre of Gravity TRL 5-8	
Large Industry	15%
SME	25%
University/RTO	40%

RIA
EU Estimated Expenditure:
50M€

IA
EU Estimated Expenditure:
95M€



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2015 Progress: 2. RIA vs IA

Software TRL

RIA Centre of Gravity: 2-4

TRL	Definition	Software description	Exit criteria
1	Basic principles observed and reported.	Scientific knowledge generated underpinning basic properties of software architecture and mathematical formulation.	Peer reviewed publication of research underlying the proposed concept/application.
2	Technology concept and/or application formulated.	Practical application is identified but is speculative, no experimental proof or detailed analysis is available to support the conjecture. Basic properties of algorithms, representations and concepts defined. Basic principles coded. Experiments performed with synthetic data.	Documented description of the application/concept that addresses feasibility and benefit.
3	Analytical and experimental critical function and/or characteristic proof of concept.	Development of limited functionality to validate critical properties and predictions using non-integrated software components., modelling and simulation	Documented analytical / experimental results validating predictions of key parameters.
4	Technology validation in laboratory environment.	Key, functionally critical, software components are integrated, and functionally validated, to establish interoperability and begin architecture development. Relevant Environments defined and performance in this environment predicted.	Documented test performance demonstrating agreement with analytical predictions. Documented definition of relevant environment.

Software TRL

IA Centre of Gravity: 5-8

TRL	Definition	Software description	Exit criteria
5	Technology validated in relevant environment.	End-to-end elements implemented and interfaced with existing systems as per target environment, system tests meet predicted performance. Operational environment performance predicted, prototype implemented.	Documented test. Performance as predicted. Documented definition of scaling requirements.
6	Technology demonstrated in relevant environment	Prototype implementations demonstrated on full-scale realistic problems. Partially integrate with existing systems. Limited documentation. Engineering feasibility fully demonstrated.	Documented test Performance in agreement with analytical predictions.
7	System prototype demonstration in an operational environment.	Prototype software with all key functionality available for demonstration and test. Well integrated with operational systems demonstrating operational feasibility. Most software bugs removed. Limited documentation.	Documented test performance in agreement with analytical predictions.
8	Actual system completed and qualified through test and demonstration.	All software thoroughly debugged, fully integrated with all operational systems. All user, training, and maintenance documentation completed. All functionality successfully demonstrated in simulated operational scenarios. Verification and Validation (V&V) completed.	Documented test performance verifying analytical predictions.

WP2015 Under Approval:

3. No special restrictions

- Unexpected reversal of roles: some members of the industrial associations proposed restrictions:
 - Limit funding to Unis/RTOs (industrial programme!)
 - Limit contributions in one ECSEL Participating States
 - Limit (min/max) size of a project etc. etc.

...but have not been supported by the EC!
- Best way to compete for funding is by submitting strong, ambitious, “**must do**” proposals!



Guidance Regarding Proposal Size

- It will not be established in the WP, but the Guide for Applicants will clarify expectations
- Proposals of any size are welcome, and will be judged on their merit against published criteria (H2020: excellence, impact, implementation)
- The PAB expects 'compelling motivations' for proposals requesting EU contributions approaching or exceeding 1/4 (RIA), respectively 1/3 (IA) of the EU budget available for the call

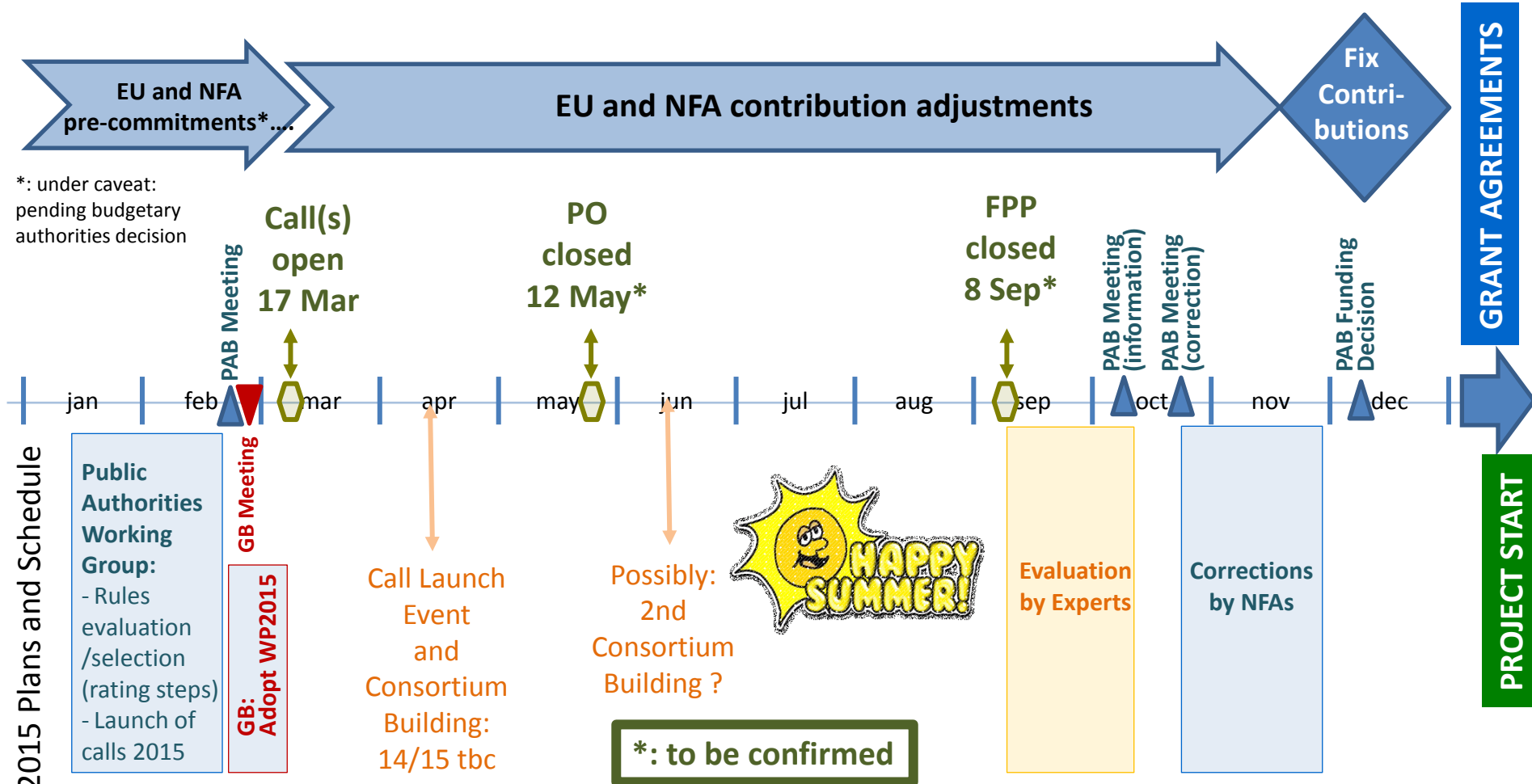


Call Launching Basics

- 2 Calls, running in parallel
 - RIA
 - IA
- Two-phase process
 - Project Outline
 - Full Project Proposal
- In case of equal score, the proposal with higher impact score is ranked higher – for both RIA and IA



Provisional Timeline 2015



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What's next?

Europeans stronger in several areas:

- Cyber-physical systems:
 - European car manufacturers dominate the International Consumer Electronics Show!
- Semiconductors:
 - Infineon invests in Villach and Dresden, purchases International Rectifier!
 - NXP on a growing path since a few years, acquires Freescale Semiconductor!

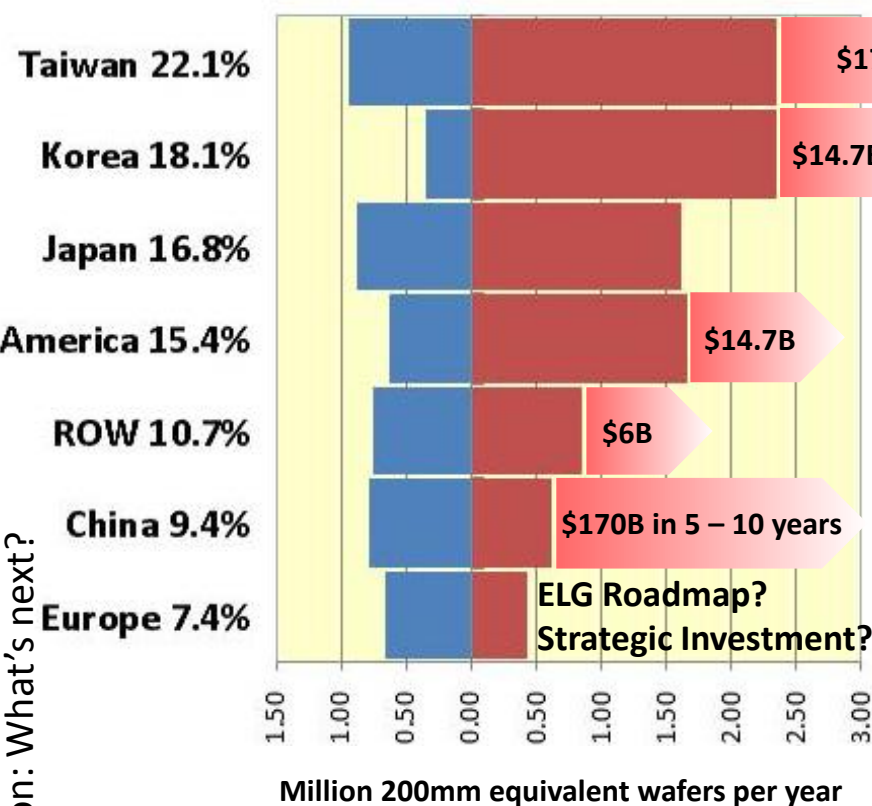
Conclusion: What's next?



Challenges and Opportunities

Conclusion: What's next?

<= 200mm **300mm**



**Future investments
announced by the end of 2014**

• 10.8 billion to build
Fedora 9 release
• \$1.4 billion to develop
the Linux kernel alone
• IoT will need
- system architecture,
- operating systems
- communication
protocols... etc. etc.
- for sure \$\$\$\$...
... also €€€€ ??

LET'S GET PERSONAL!

- Driverless taxi, bus, trucks
- Privacy and security
- A-geek-ulture
- Energy harvesting
- Fuel cells
- Exploiting the genom
- How to make everything (3D printing)

**LET'S MAKE
THE FUTURE
HAPPEN!**



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Thank you for your attention!



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