

Recovery Package: Private-Public Partnerships (PPP) FP7 – WP 2010



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1. Factories of the Future (FoF) - PPP

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4. Project submission guidelines

FoF - CONTEXT



“Factories of the future” PPP initiative

- Adapt to global competitive pressures
- Efforts to address needs of SMEs
- Developing trans-sectoral production technologies
 - High perf, high custom of production systems
 - ICT based prod systems, high degree of autonomy & adaptability
 - Sustainable manufacturing tools, assembling of complex materials
- Themes: NMP, ICT

€ 1.2 billion in 4 years → € 95 million for WP2010

- 2010 Program date of publication: 31st of July 2009



FoF – Call topics WP2010



➤ **Plug-and-produce components for adaptive control – NMP**

- Collaborative Project
- Development of active, self-optimizing, portable plug & produce components → adaptive production systems
- Maintain manufacturing process by avoiding disturbances influences & minimizing influences of changes in production → adaptive smart materials & ↗ adaptability of prod systems
 - ✓ Industrial partner mandatory: SMEs added values
 - ✓ Covering of demonstration activities, pilot implementations lines mandatory

➤ Expected Impacts

Dynamics improvement
Higher precision
High level of reliability
Higher productivity & product quality

FoF – Call topics WP2010



➤ **Supply chain approaches for small series industrial production - NMP**

- Collaborative Project
- Development of manufacturing systems for personalized, customer-oriented & eco-efficient need of the future
- Research focus on
 - Advanced techniques for fast data capture & data management
 - Flexible & multifunctional computer-aided design systems
 - Legislative, logistics and organizational aspects
- ✓ Industrial driven project: SMEs strong added values (decision makers)
- ✓ Covering of demonstration activities, pilot implementations lines mandatory

➤ Expected Impacts

Rapid manufacturing techno (replacement of 5-15% of conventional prod in next 5-10y)
Removal of technical barriers
Citizen wellness

FoF – Call topics WP2010



➤ **Intelligent, scalable, manufacturing platforms and equipment for components with micro- and nano-scale functional features – NMP**

- Collaborative Project
- Micro – Nano manufacturing platforms → cost efficient and customized product
- Research focus on
 - New design & modeling tools
 - New control solutions & embedded sensor technologies
 - Integrated solutions for automatic handling of large volumes of small parts
 - Novel solutions of nano-processing operations with conventional lines
 - Modular & knowledge-based approaches
 - Characterization & quality control
- ✓ Industrial partner mandatory: SMEs strong added values
- ✓ Covering of demonstration activities, pilot implementations lines mandatory

➤ Expected Impacts

Support micro manufacturing industries
Enable new factories
Reverse outsourcing manufacturing to
low-cost countries

FoF – Call topics WP2010



➤ **Smart Factories: ICT for agile and environmentally friendly manufacturing - ICT**

- 5 different topics

a) Integrated process automation & optimization for sustainable manufacturing (IP)
Yield & quality increase while ensuring energy efficiency & waste reduction

b) Real-time monitoring of energy use & material flow (IP)
Sensors network to control energy autonomy, connectivity, self-diagnosis...
Conjunction with standardization bodies

c) Robotics enabled production processes tested & validated in real-world environment (STREP)

Robotics for large scale operation in smart factory environments for food processing, service supply industries

FoF – Call topics WP2010



➤ **Smart Factories: ICT for agile and environmentally friendly manufacturing - ICT**

d) Laser applications (STREP)

novel lasers & laser systems in energy-efficient systems and/or production of environmental friendly products

e) European “ ICT for FoF ” Coordination Action (CSA)

Bring together relevant stakeholders → facilitating industrial learning

Exchange of best practices → roadmap in conjunction with ETP

a) b) c) d) expected to be industry led

➤ Expected Impacts

- Higher level of shopfloor intelligence
- Advanced automation for large scale & small scale manufacturing
- Higher productivity of highly customized manufacturing

FoF – Outputs



FP7 Theme	Topic	Budget (mio EUR)	Call references	Funding scheme	Deadline
NMP – Nanosciences, nanotechnologies, Materials and new Production	FoF.NMP.2010-1 Plug and Produce components for adaptive control	60	FP7-2010-NMP- ICT-FoF	Collaborative Projects	3 November 2009
	FoF.NMP.2010-2 Supply chain approaches for small series industrial production				
	FoF.NMP.2010-3 Intelligent, scalable, manufacturing platforms and equipment for components with micro- and nano-scale functional features				
ICT – Information and Communication Technologies	FoF.ICT.2010-10-1 Smart Factories: ICT for agile and environmentally friendly manufacturing – a), b), c), d) targeted outcomes	33.5			
	FoF.ICT.2010.10-1 Smart Factories: ICT for agile and environmentally friendly manufacturing – e) targeted outcome	1.5			

Collaborative projects:
At least 3 participants from 3 different countries
 -Small scale collaborative project (STREPS):
 Average size: € 2.5 Mio – 7 participants / project
 -Large scale integrating project (IP):
 From € 4 Mio to + € 10 Mio + 15 partners

COLLABORATIVE RESEARCH

Co-ordination/support actions
 Support the implementation of EU research policies

CSA

FoF – ETPs



|||| MANUFUTURE Future Manufacturing Technologies



Manufuture propose, develop and implement a strategy based on Research & Innovation, capable of speeding up the rate of industrial transformation to high-added-value products, processes and services. In order to ensure competitiveness in manufacturing industries

|||| ARTEMIS Advanced Research and Technology for Embedded Intelligence and systems.



ARTEMIS helps European Industry consolidate and reinforce its leadership in embedded computing technologies. Its SRA insists on the importance to aligne itself with to major European policies on competitivness, sustainable development, transport and eEurope.

|||| ENIAC European Nanoelectronics Initiative Advisory Council



“to make the 2020 information society technologically feasible and economically affordable”.

The main goal is to define the research and innovation priorities to ensure a truly competitive nanoelectronics industry in Europe.



2. Energy – Efficient Buildings (EeB) - PPP



1. Factories of the Future (FoF) - PPP

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3. Green Cars (GC) - PPP

4. Project submission guidelines

EeB - CONTEXT



“Energy-efficient Buildings” PPP initiative

- Develop concepts to reduce energy consumption and decrease CO₂ emissions
 - New buildings materials and components, energy storage & thermal distribution systems for energy saving & energy generation
 - ICT for energy efficiency
 - Resource efficiency to identify best practices for public policies
 - Research @ district level
- Themes: NMP, ENERGY, ICT, ENV
- € 1 billion in 4 years → € 65 million for WP2010**
- 2010 Program date of publication: 31st of July 2009





➤ **New nanotechnology-based high performance insulation systems for energy efficiency – NMP**

- Collaborative Project
- Development of nanotechnology based insulation systems to enhance installations thermo-mechanical properties
- Combining insulating effect with other functionalities (FR, Self-cleaning....)
- Economic performance demonstration via service-life costing analysis
 - ✓ Industrial partner mandatory
 - ✓ Covering of demonstration activities, pilot implementations lines mandatory

➤ Expected Impacts

Reduce nano-based insulation system costs
Reduce heat losses through building envelope
U reduction more than 35%
Reduce energy bill by 40% for heating and by 7% for cooling



➤ **New technologies for energy efficiency at district level – NMP**

- Collaborative Project
- Development of new tech & methods to reduce energy consumption & environmental impact of building (entire life-time) @ district level.
- New buildings structure, new energy storage capacities, new energy carriers
- Deliverables include development, integration and demo if possible @ district level
 - ✓ Industrial partner mandatory, SMEs added values
 - ✓ Covering of demonstration activities, pilot implementations lines mandatory

➤ **Expected Impacts**

Reduction of 50% in energy consumption compared to 2005 values
Reduce costs more than 20% compared to existing solutions
ROI < 7 years

EeB – Call topics WP2010



➤ **ICT for energy-efficient buildings and spaces of public use – ICT**

• 2 different topics

a) ICT based management and intelligent control systems governing all energy-efficient sub-systems (STREP)

Inside buildings as well as surrounding space

Validation phase mandatory, highlight benefits of such systems (total costs of operation), take into account standardization & regulation measures.

b) European « ICT for EeB » forum (CSA)

Bring together relevant stakeholders → facilitating industrial learning

Roadmap edition & standardization contribution

➤ Expected Impacts

Opening of a market for ICT based customized solutions
Collaboration framework between ICT & building sectors
Radical reduction of energy consumption & CO₂ emission

EeB – Call topics WP2010



➤ **Compatible solutions for improving the energy efficiency of historic buildings in urban areas – ENV**

- Collaborative Project (only 1 project will be supported – upper EC contribution 5M€)
- Development of new tech, systems & materials to improve energy efficiency of historic buildings
- Improvements of components, thermal insulation, air conditioning, heating....
- Take into account specific cultural value
 - ✓ Industrial partner mandatory, SMEs added values
 - ✓ Local authorities or agencies in charge of rehabilitation participation encouraged

➤ Expected Impacts

Energy savings, sustainable renovation
Implement EU Impact Environment Assessment Directives *
Support Strategic Research Agenda of ECTP

* Guidelines at www.suitproject.net



➤ **Demonstration of energy efficiency through retrofitting of buildings – ENE**

- Collaborative Project (about 4 projects will be supported – max EC contribution / project 6M€)
- Demonstrate high energy efficient innovative retrofitting technologies for low energy performing buildings. As cost effective as possible and ROI must be calculated
- Demo building(s) mandatory
- Achieve national limit values for new buildings following Energy Performance of Buildings Directive (for 2010)
- Reducing space heat use about 75%, high replication potential projects with market deployment program

➤ Expected Impacts

- Accelerate retrofitting uptake
- Offer cost effective practices
- Create best practices examples to increase performance standards in construction industry

EeB – Outputs



FP7 Theme	Topic	Budget (mio EUR)	Call references	Funding scheme	Deadline
NMP – Nanosciences, nanotechnologies, Materials and new Production	EeB.NMP.2010-1 New nanotechnology-based high performance insulation systems for energy efficiency	30	FP7-2010-NMP-ENV-ENERGY-ICT-EeB	Collaborative Projects	3 November 2009
	EeB.NMP.2010-2 New technologies for energy efficiency at district level				
Environment (including Climate Change)	EeB.ENV.2010.3.2.4-1 Compatible solutions for improving the energy efficiency of historic buildings in urban areas	5			
Energy	EeB.ENERGY.2010.8.1-2 Demonstration of Energy Efficiency through Retrofitting of Buildings	15			
ICT – Information and Communication Technologies	EeB.ICT.2010.10-2 ICT for energy-efficient buildings and spaces of public use - a) targeted outcome	14			
	EeB.ICT.2010.10-2 ICT for energy-efficient buildings and spaces of public use - b) targeted outcome	1		CSA	

Collaborative projects:

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-Small scale collaborative project (STREPS):

Average size: € 2.5 Mio – 7 participants / project

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COLLABORATIVE RESEARCH

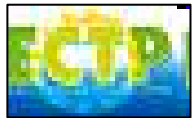
Co-ordination/support actions

Support the implementation of EU research policies

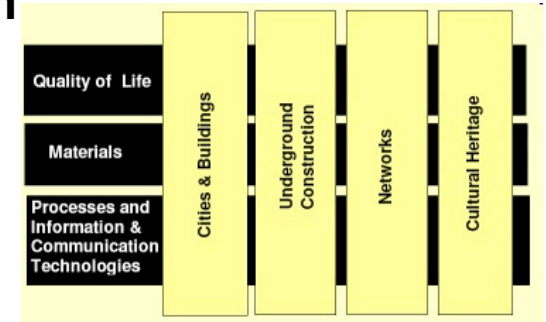
EeB – ETPs



|||| ECTP European Construction Technology Platform



ECTP works on developing new RDI strategies: to improve the competitiveness of the construction sector, to meet societal needs and environmental challenges.



|||| EuMaT Advanced Engineering Materials and Technologies (AEMT)



The term AEMT refers to the three pillars related production technologies: Multifunctional materials / Materials for extreme conditions / Hybrid & Multimaterials. EuMaT assure optimal involvement of industry and other important stakeholders in coherence with "Radical Change" and "Sustainable Development".

|||| eMobility Mobile and Wireless Communications



"The improvement of the individual's quality of life, achieved through the availability of an environment for instant provision and access to meaningful, multi-sensory information and content."

eMobility works on reinforcing Europe's leadership in mobile and wireless communications and services.



3. Green Cars (GC) - PPP



1. Factories of the Future (FoF) - PPP
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- 3. Green Cars (GC) - PPP**
4. Project submission guidelines

GC - CONTEXT



“Green Cars” PPP initiative

- Boosting RDI for deployment of new generation of cars, trucks & buses
- 3 majors R&D avenues
 - Heavy duty vehicles based on internal combustion engines
 - Logistics & co-modality
 - Electric & hybrid vehicles (WP 2010)

- 3 groups of topics



Electrochemical storage applications
Electric & hybrid vehicles
ICT for fully electrical vehicle

- Themes: TRANSPORT, NMP, ENERGY, ICT, ENV

€ 1 billion in 4 years → € 108 million for WP2010

- 2010 Program date of publication: 31st of July 2009



GC – Call topics WP2010



➤ **Materials, technologies and processes for sustainable automotive electrochemical storage applications – Joint Call: NMP, TRA, ENE, ENV**

- Collaborative Project
- Batteries & electrochemical capacitors (lithium-based techno or new techno)
- For Li-based batteries → recycling, modeling of degradation, extension of operational life of cells
- Environmental sustainability must be assessed → ILCD Handbook*
- Cost, recyclability & safety must be emphasized
- Work on Fuel cells excluded but synergies of storage chemistries and architectures with fuel cell applic can be covered.

✓ Industrial partner mandatory, SMEs added values

➤ Expected Impacts

Lead market including recycling
Cost , recyclability & life-cycle sustainability

* http://lca.jrc.ec.europa.eu/EPLCA/Deliverables/ILCD_handbook.htm

GC – Call topics WP2010



➤ **Electrical machines - TRA**

- Collaborative Project
- Cheap & highly efficient with high power to weight and volume ratios
- Reliable & robust to achieve automotive standards
- Must be produced industrially
 - Innovative concepts
 - High performance conductive, magnetic & insulating materials
 - Simplified & high efficiency cooling concepts
 - Advanced magnetic modeling tools
 - Automated manufacturing concepts

GC – Call topics WP2010



➤ **Integrated electric auxiliaries and on-board system – TRA**

- Collaborative Project
- Electrification & integration on board of several power hungry devices
- Optimization of existing concepts
- Electric safety maintained
- Focus on:
 - Optimized electrified components in terms of efficiency, size, weight & cost
 - Global energy management concept
 - Other energy control devices to optimize energy flows

GC – Call topics WP2010



➤ **Optimized thermal engine development and integration - TRA**

- Collaborative Project
- Efficient, compact & low cost engines for hybrid vehicles
- Be in-line with Euro6 future standard on noxious emissions & “zero emission” label of electric vehicles
- Focus on:
 - Highly innovative engines based on alternatives architectures or cycles
 - Extremely downsized engines
 - Adapting engines from other applications

GC – Call topics WP2010



➤ **Smart storage integration – TRA**

- Collaborative Project
- Battery packs will remain in the near future heavy & bulky components
- Needs for fast removing or “refuelling”
- Focus on:
 - Innovative concepts for physical integration in vehicle structure
 - Smartly integrating battery pack in on board systems
 - Feasibility of quick-change concept
- Address aspects of electrical safety

GC – Call topics WP2010



➤ **Advanced electric vehicle concepts - TRA**

- Collaborative Project
- Electric powertrain → new mechanical & architectural considerations
- Aspects to be addressed
 - Lightweight vehicles
 - Optimized aerodynamics
 - Ergonomic on board passenger space for repair accessibility
 - Modular vehicle architecture
 - Electromagnetic compliance for successful drive systems integration
- Cost, weight and comfort must be taken into account



➤ **Implementing PPP in the European Green Cars Initiative – TRA**

- Coordination and Support Action (CSA)
- Support PPP realization in connection with « European Green Car Initiative »
- Coordination between ETPs and research supported by MS/AS

➤ **Raising awareness of potential job opportunities related to the electrification of road transport – TRA**

- Coordination and Support Action (CSA)
- Encourage young people to seek for high skilled job in this domain (e.g. communication campaigns)
- Evaluate research outputs to maintain / create jobs in this field



➤ **Integrated EU demonstration project on electromobility – TRA**

- Collaborative Project
- Demonstration project including vehicles, infrastructure & standards
- Investigation of different vehicle – grid interaction
- Fuel cell electric vehicles are excluded
- Activities should include:
 - Demonstration in real-life operating conditions with several vehicles types
 - Demonstration of infrastructures
 - Development of standards
 - Assessments of impact on electricity grids and of impact on energy & environment
 - Communication, dissemination & education
- Expected impact: acceleration of market roll-out, clarify safety, economic & technical viability of different electrical vehicles

GC – Call topics WP2010



➤ **ICT for the Fully Electric Vehicle – ICT**

- 2 different topics

a) Highly efficient ICT components and solution (STREP)

For systems optimization

New solutions for efficiency gains (electrical management, lightweight electrified auxiliaries, cooperative interaction of subsystems)

Safe & robust sub-systems

Advanced electrical architecture

b) European Fully Electric Vehicle Coordination Action (CSA)

Identify & review needs in term of research

Roadmap edition & networking events

➤ Expected Impacts

European leadership in electrification of mobility
Reinforced coordination on research activities on FEVs
Increase overall energy efficiency
Strengthened competitiveness

GC – Outputs



FP7 Theme	Topic	Budget (mio EUR)	Call references	Funding scheme	Deadline
Joint Call NMP, Energy, Environment, Transport Transport (Sustainable Surface Transport)	Materials, technologies and processes for sustainable automotive electrochemical storage applications. This topic is published under: GC.NMP.2010-1 GC.ENERGY.2010.10.2-2 GC.ENV-2010.3.1.3-3 G.-SST.2010.7-9	25	FP7-2010-GC-ELECTROCHEMICAL-STORAGE	Collaborative Projects CSA	14 January 2010
	GC.SST.2010.7-1 Electrical machines	40	FP7-SUSTAINABLE SURFACE TRANSPORT (SST)-		
	GC.SST.2010.7-2 Integrated electric auxiliaries and on-board systems				
	GC.SST.2010.7-3 Optimised thermal engine development and integration				
	GC.SST.2010.7-4 Smart storage integration				
	GC.SST.2010.7-5 Advanced electric vehicle concepts				
	GC.SST.2010.7-6 Implementing Public-Private Partnership in the European Green Cars initiative				
	GC.SST.2010.7-7 Rising awareness of potential jobs opportunities related to the electrification of road transport				
GC.SST.2010.7-8 Green Cars - Integrated EU demonstration project on electromobility	23	FP7-TRANSPORT-2010-TREN-1	Collaborative Projects		
ICT – Information and Communication Technologies	GC.ICT.2010.10-3 ICT for the fully electrical vehicle - a) targeted outcomes	19	FP7-2010-ICT-GC	Collaborative Projects CSA	3 November 2009
	GC.ICT.2010.10-3 ICT for the fully electrical vehicle - b) targeted outcomes	1			

Collaborative projects:
At least 3 participants from 3 different countries
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 Average size: € 2.5 Mio – 7 participants / project

COLLABORATIVE RESEARCH

Co-ordination/support actions
 Support the implementation of EU research policies

GC – ETPs



|||| ERTRAC **European Road Transport Research Advisory Council**



ERTRAC's goal is to provide a framework to focus co-ordination efforts of public and private resources on the following research activities:
Environment, Energy & Resources / Safety & Security /
Transport, Mobility & Infrastructure / Design & Production Systems.

|||| EPoSS **European Technology Platform on Smart Integration**



EPoSS is an industry-driven policy initiative, defining R&D and innovation needs as well as policy requirements related to Smart Systems Integration and integrated Micro- and Nanosystems. Its research areas are automotive, Aeronautics, MedTech, Information & Communication, RFID and Security.

|||| **As well as**



GC – ETPs / Association



|||| CLEPA

European Association of Automotive Suppliers

CLEPA is the **European umbrella membership organisation** representing the interests of the global automotive supply industry.

Official voice for the automotive supplier industry.

Recognized by the European Institutions and the United Nations.

Over 3000 member of companies providing employment for more than 3 million people.



|||| EUCAR

European Technology Platform on Smart Integration

EUCAR is an industrial association owned by its members, which are the 12 major European manufacturers of cars, trucks and buses.

Its mission is **”Strengthen the Competitiveness of the European Automotive Manufacturers through Strategic Collaborative R&D”**.

The members of EUCAR represent the major European vehicle manufacturers.



To consult :

R&D Priorities for the Greening of Vehicles and Road Transport

A contribution by CLEPA and EUCAR to the European Green Car Initiative- May 2009



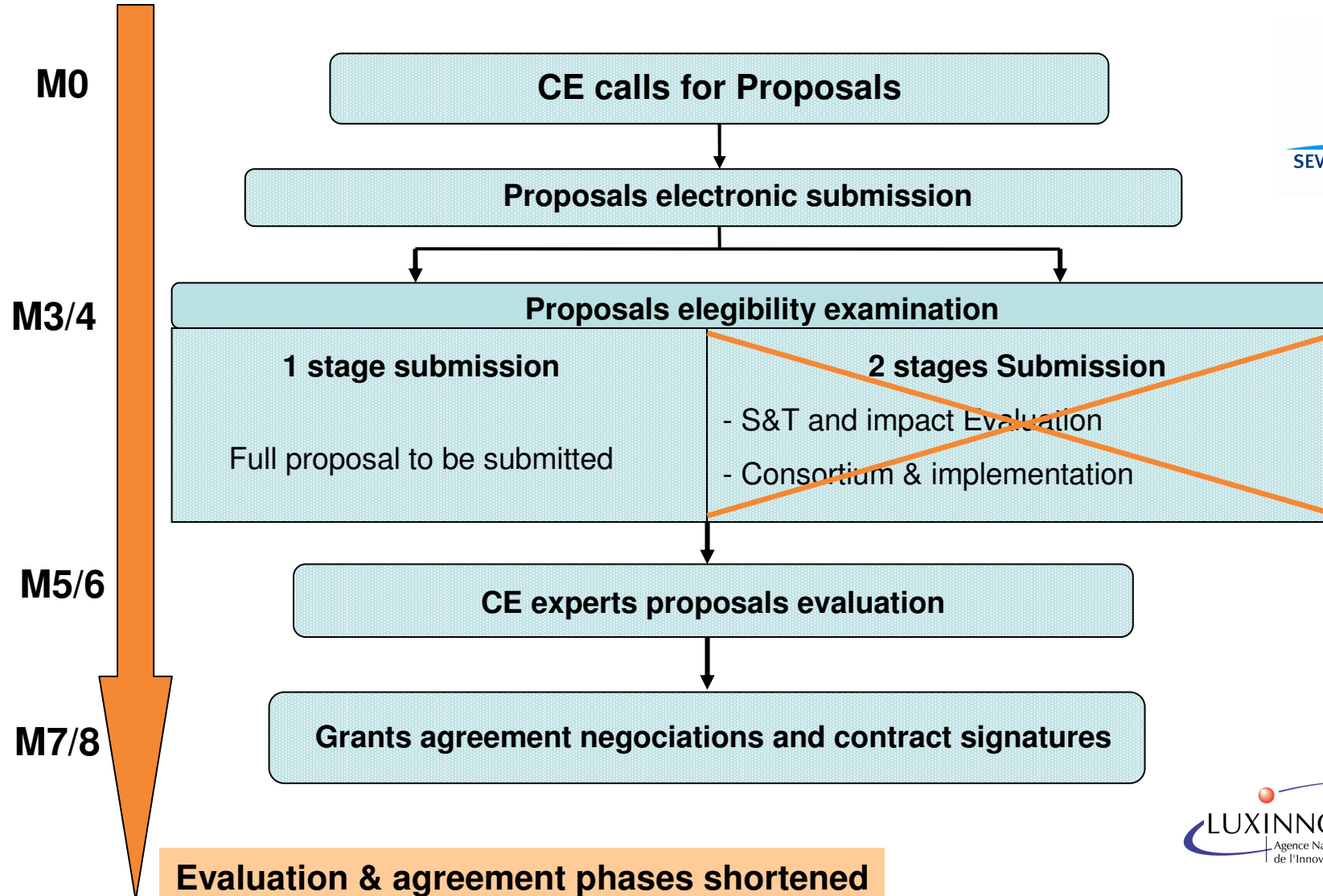
4. Project submission guidelines



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Project Submission Guidelines



Project Submission Guidelines



- **For all opened topics**

- Single-stage evaluation procedure.
- Proposals will not be evaluated anonymously.
- Proposals will be evaluated remotely with the consensus session being held in Brussels.
- Evaluation criteria:



	Minimum threshold
S/T quality	3/5
Implementation	3/5
Impact	3/5
Overall threshold required	10/15

- Generally, No financial ceiling except for some described topics (e.g. EC contribution max. 4M€ for electrochemical Joint Call)

Project Submission Guidelines



Collaborative Projects – Financial schemes

- Co-financing rates vs legal entities



	Large companies	Public labs	SME
Management	100 %	100 %	100 %
Research	50 %	75%	75%
Demonstration	50%	50%	50%

- Partnership : minimum 3 legal entities from 3 different countries (MS/AS)

Thank you for your attention !!!



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