



Bridging the gap from Technology to market

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EU ambition ➡ Energy Union ➡ SET Plan



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ENERGY UNION PACKAGE

COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE, THE COMMITTEE OF THE REGIONS AND THE EUROPEAN
INVESTMENT BANK

A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate
Change Policy

- Energy security, solidarity and trust;
- A fully integrated European energy market;
- Energy efficiency contributing to moderation of demand;
- Decarbonising the economy, and
- Research, Innovation and Competitiveness

Excerpt page 4

2.5. An Energy Union for Research, Innovation and Competitiveness

A new strategy for Research and Innovation (R&I) must be at the very heart of the Energy Union. If Europe's Energy Union is to be the world number one in renewable energies, it must lead on the next generation of renewable technologies as well as to storage solutions.

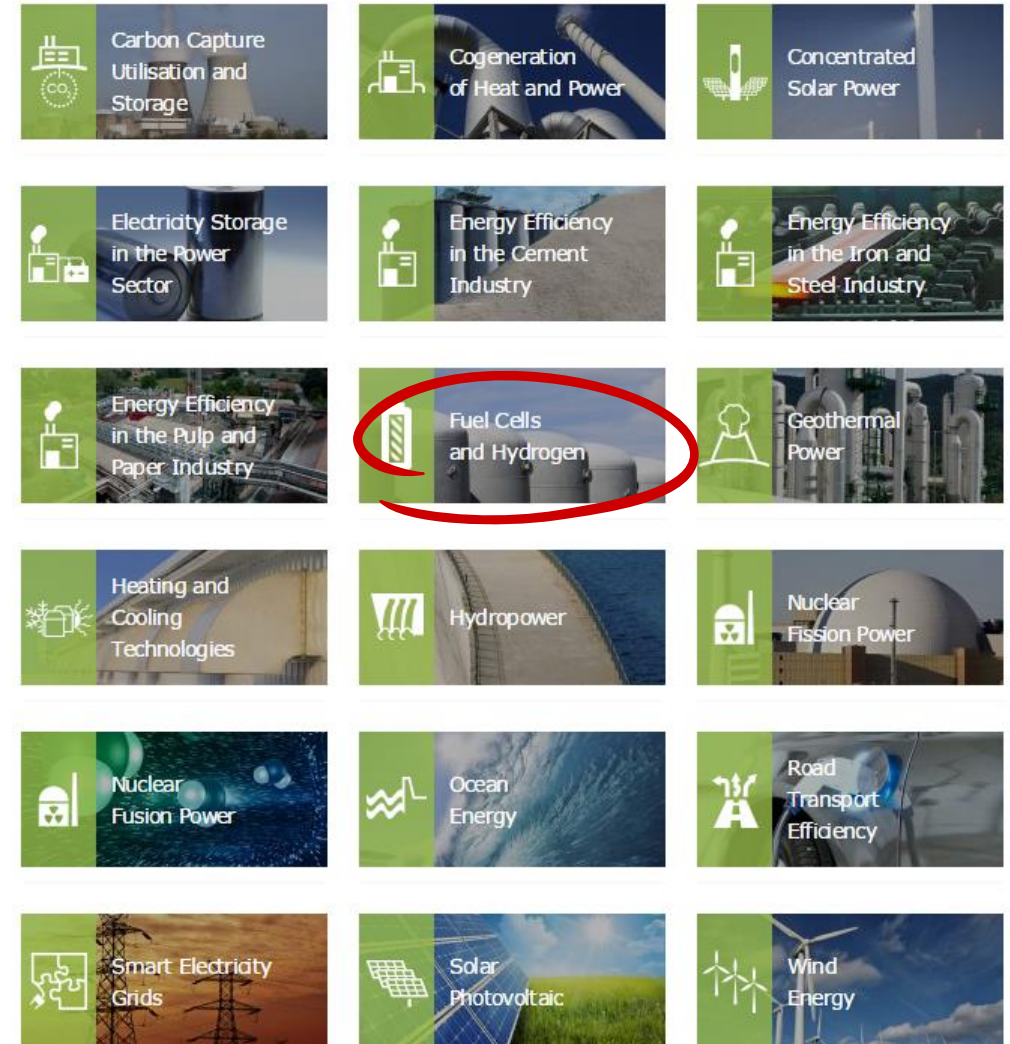
Excerpt page 16

200 B€ in the field of
Energy&Climate
(20% global budget)
2014-2020

Strategic Energy Technologies Plan

SETIS

- implementation of the SET-Plan
- identify energy technology and RD&D objectives,
- identify new opportunities,
- assess the effectiveness and efficiency of the SET-Plan in delivering energy and climate change policy goals.



CHALLENGE: Manufacturing in Europe?

- ▶ Between the first quarter of 2008 and the end of 2012



3.8 million jobs have been
lost in manufacturing in the EU*.
(more than in the US and Japan cumulated)

- ▶ Competing economies leap-frogging up global manufacturer's ranking supported by political leadership.



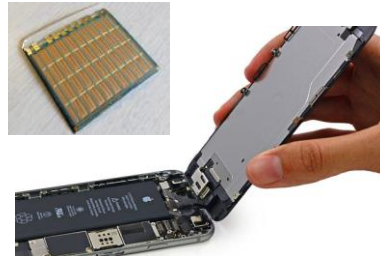
US manufacturing
has added about
600,000 jobs over
the past 5 years.



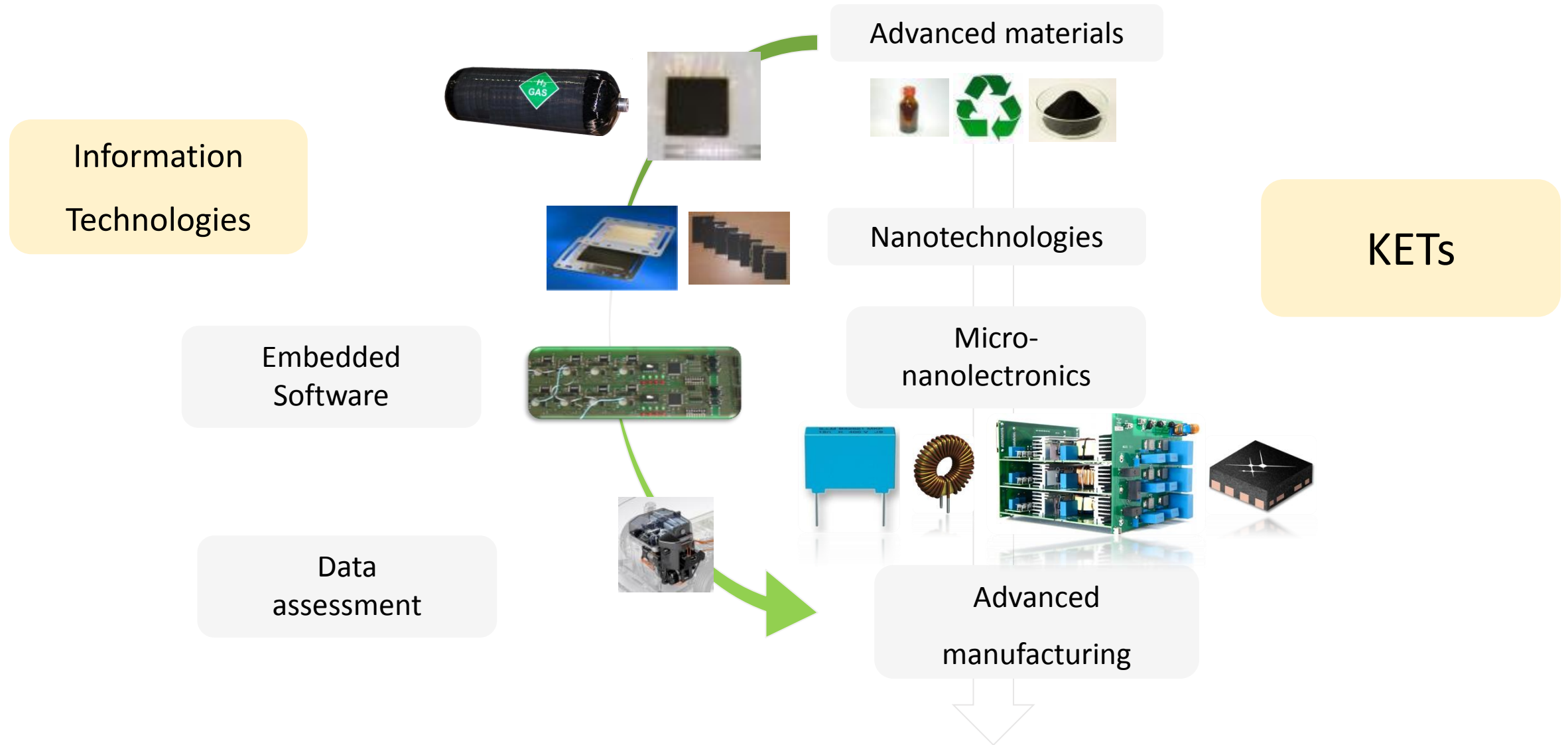
With 22% of the market share,
China is now the world's
largest factory for advanced
products, ahead of US and EU.

Getting beyond silos: an integrated strategy

- 1- ➡ Couple the hydrogen vector to all available renewable energy sources (storage, power to chemicals, use of CO₂ ...)
- 2- ➡ Diversification of H₂ deployment towards diverse societal challenges (transport, energy, digital, health ...)
- 3- ➡ Access to Key Enabling Technologies
- 4- ➡ Cumulative funding mechanism (Private + Eu + member states + regions)



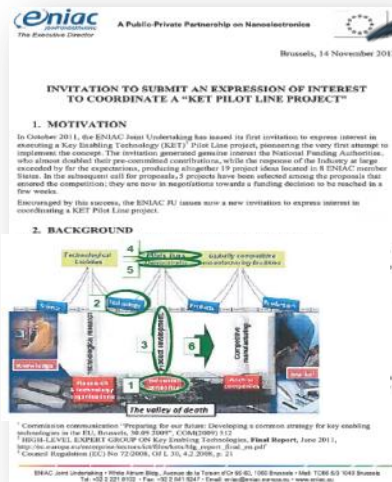
Access to Enabling Technologies: e.g. PEMFC



ENIAC/ECSEL: a successful model of industrial pilot lines

The first
ENIAC /ECSEL calls
Kets pilot lines

ENIAC Call, KETs Pilot Line



14 Industrial scale Pilot lines have been
implemented across Europe (calls 1&2)

Today's ECSEL calls (evaluation 2014-2021)

EU contribution: 1,2 B€
Member states contribution : 1,8 B€



Two proposals based on existing instruments

1. Fast track: accelerate the installation in EU of pilot lines

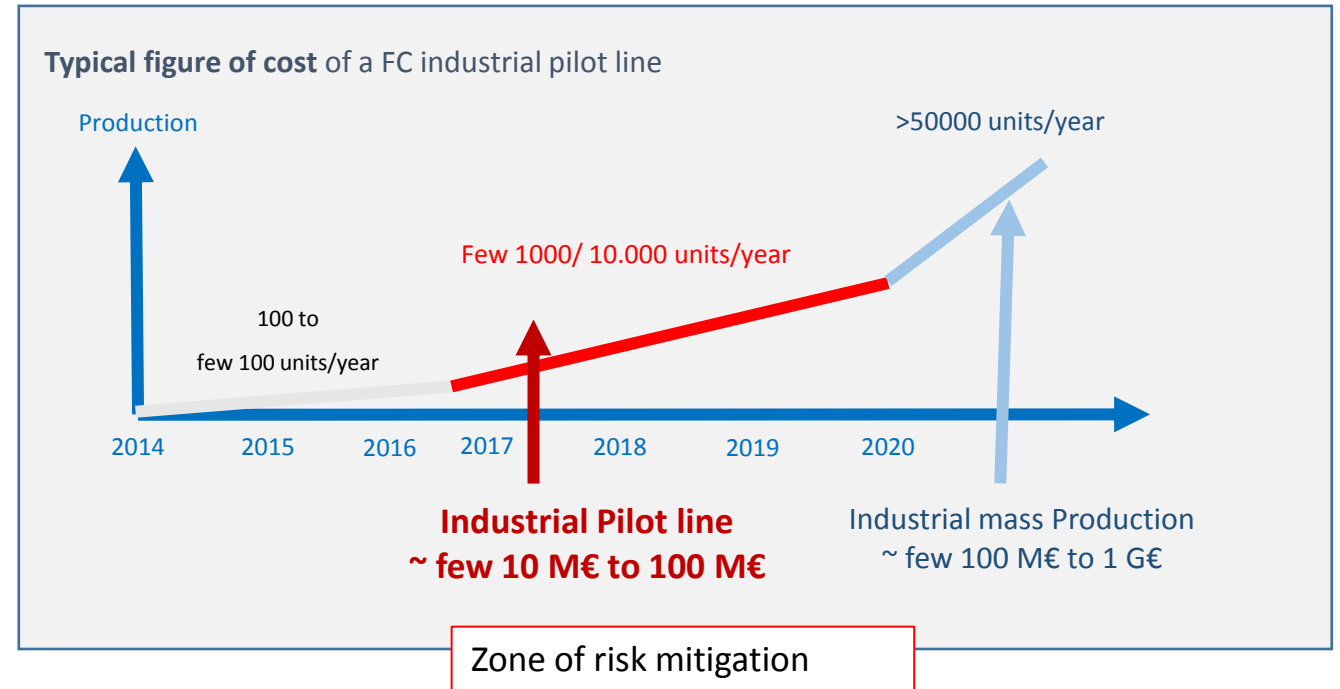
>> Specific call within FCH2 JU

2. Mid term: prepare in EU an infrastructure for large scale deployment of hydrogen vector

>> IPCEI: Important Projects of Common European Interest

Accelerate the installation of industrial pilot lines in EU

- Manufacturing in EU
- Risk mitigation
- Generic & critical components /sub-systems
- Impact along the value chain
- « First of kind » industrial infrastructure
- Size: capacity adapted to emerging markets



Proposal

- >> Specific call 'Pilot Lines' to be launched in AWP 2017
- >> Operator: FCH2 JU
- >> Rules of cumulative funding based on ECSEL KETs model

An infrastructure for large scale deployments

>> Pilot lines are important for bridging technologies to market

>> IPCEI is the framework to get joint commitments and coordinated actions between all the stakeholders

Stakeholders

- EU
- Member states
- Industrial players

Coordinated actions

- Physical infrastructure
- Regulations, Codes and Standards
- Financing

Proposal

- >> Building IPCEI H2 project needs a minimum of 3 member states.
- >> Action should start ASAP (2016)
- >> Operators: Member states

Conclusions

- The SET-Plan is designed to decarbonize energy and develop a green economy
- Hydrogen is recognized as an energy technology in the set-plan
- EU wants to be competitive on renewable energies and storage
- Manufacturing in EU is a challenge
- Critical Hydrogen components need industrialization and pilot lines
- KETs have shown how to deploy Industrial pilot lines in EU
- Fast track: organize a call of proposals on pilot lines in FCH2 JU in AWP 2017
- IPCEI is an excellent framework to develop Hydrogen infrastructure at large scale