

# Resilient Production Networks Cluster

The Resilient production Networks Cluster has been inaugurated by the three projects FLEXINET, ROBUSTPLANET and MANSYS, of the European Factories of the Future PPP Domain 4 “Collaborative and Mobile Enterprises”. The area comprises 15 current projects, and the formation of the Cluster was presented to all these projects during the FoF-PPP Impact Workshop in April 2015.

This note outlines the definition of a Resilient Production Network (RPN), its purpose and impacts, and goes on to summarise an initial view of the Cluster Objectives. The Cluster is constituted simply as an informal interest group without financial or legal existence, and as such is open to membership by any interested party, including, but not necessarily limited to:

- EU H2020 projects addressing issues of relevance to RPNs. Such issues may be technological or logistical, but inevitably involve application of advanced ICT methodologies in resolution.
- Partners in such projects as above.
- Research institutions or individual researchers addressing such issues.
- Networked enterprises who might consider exploitation of results emanating for RPN research.
- Enterprises offering, or considering offering, ICT support to RPNs.
- Representatives research and innovation funding agencies whose remit may include support

## Resilient Production Networks are:

- Robust: combine stability and agility appropriately to not only survive in a changing market and technological environment, but to exploit the opportunities offered by change;
- Cognitive: aware of their capabilities, aware of the demands placed on those capabilities, and above all, aware of and able to implement strategies to respond rapidly and effectively to any inconsistency between current demands and capabilities
- (Self) Adaptive: recognise the need for evolution of products, services and production and logistic processes, and have the ability to adapt immediately and without disruption, to disruptive events;
- Flexible: the only constant they recognise is the need for constant change.
- Resilient: recognise the impact of uncertainty and risk, and adopt methods and tools to predict, measure, and respond to uncertainty, to not only mitigate the effect of uncertainty, but to exploit understanding of uncertainty as a key competitive advantage.

## Resilient Production Networks support:

- Co-evolution of products, services and production technology, through their ability to adapt the network configuration to change as a matter of routine;
- Innovation, in response to changing markets and technologies: exploiting their flexibility allows them to encourage disruptive change;
- Integration of systems flexibly across changing network configurations.

## Resilient Production Networks Impacts:

- Promote business competitiveness;
- Promote competitiveness of EU markets and industry;
- Enhance ROI by ensuring utilisation of assets (both physical and intellectual);
- Increase and stabilise employment in the EU.

## Resilient Production Networks Cluster Objectives:

- Brings together FoF (and other if appropriate) projects focused on methods, tools, services, applications and platforms for strategic, tactical, operational and process support for Resilient Production Networks;
- Offers synergies in project exploitation:
  - joint promotional workshops;
  - joint standardisation opportunities.
- Provides opportunities for integration/harmonisation of results: potential for integrated service architecture;
- Cross-exposure and review of use-cases/demos by end-users from all projects;
- Shared storyboards for use-cases;
- Promotion of future calls for proposals for research relevant to Resilient Production Networks.

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