

The PISOC experience

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Systems Engineering for SME in Occitanie, France*

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Mannheim, Germany

SME situation in France

134K SME, 4 000 000 workers
11K with engineering activities
Profitability **11%** (18% for big business)

No time, no money
Afraid by the term "Systems Engineering"
Top down approach fails

An **opportunity**

ISO 29110 SE reference
dedicated to SME
Young engineers SE skilled
Government plan to support
industrial SME
(Industrie du Futur/DIRECCTE)



Reverse the process

AFIS decision: towards a **bottom up** approach

Support SMEs **locally**, on the field

An initiative is born in
Occitanie AFIS Chapter (Toulouse)



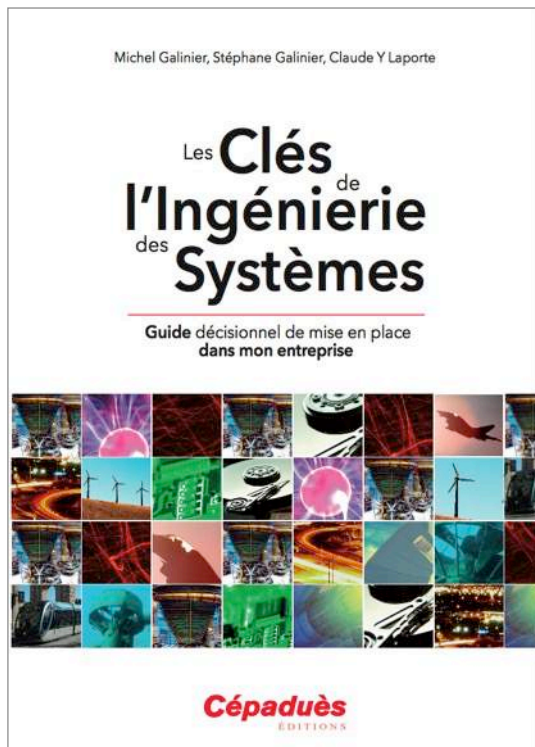
A **guidebook for SME**
managers is being
prepared by 2 members

The **local government**
representation supports AFIS
initiative

A pilot initiative is decided:

The logo for PISOC, with the letters 'PISOC' in white on a red rectangular background.

A guidebook



Systems Engineering Keys a decisional Guide for SME managers

Quick view (15p) for **global** managers

Chapters for:

technical managers

project managers

information system managers

ROI identification and SE **change management**

120 pages

Based on ISO 29110

More than 20 reviewers including SMEs

June 2017

« Les Clés de l'Ingénierie des Systèmes », Michel Galinier, Stéphane Galinier, Claude Y Laporte
Cépaduès Editions - <http://www.cephadues.com/livres/les-cles-ingenierie-des-systemes-9782364935976.html>



PISOC: a pilot initiative



- Purpose: Support SME in implementing system engineering
 - Clarify the **SME priorities**
 - Test the **acceptability** of system engineering implementation
 - Measure **effectiveness** of actions
 - Issue **AFIS recommendations** to SME and Consultants
- Key figures
 - About 50 K€ stacked by AFIS and DIRECCTE (French government)
 - **18 month** (from December 2017 to May 2018)
 - **6 SME** selected
 - **8 volunteer** experts
 - Based on ISO 29110 and Maturity model

On going

Implementation steps



The PISOC datapackage

Guidebook « The Systems Engineering Keys »

ISO 29110 Basic profile

Training support (SE sensitisation, 2 hours)

SE Process **Pocket Guide**

Templates for assessment and notation matrix

Ethics charter for assessors and coaching team



The PISOC volunteers team



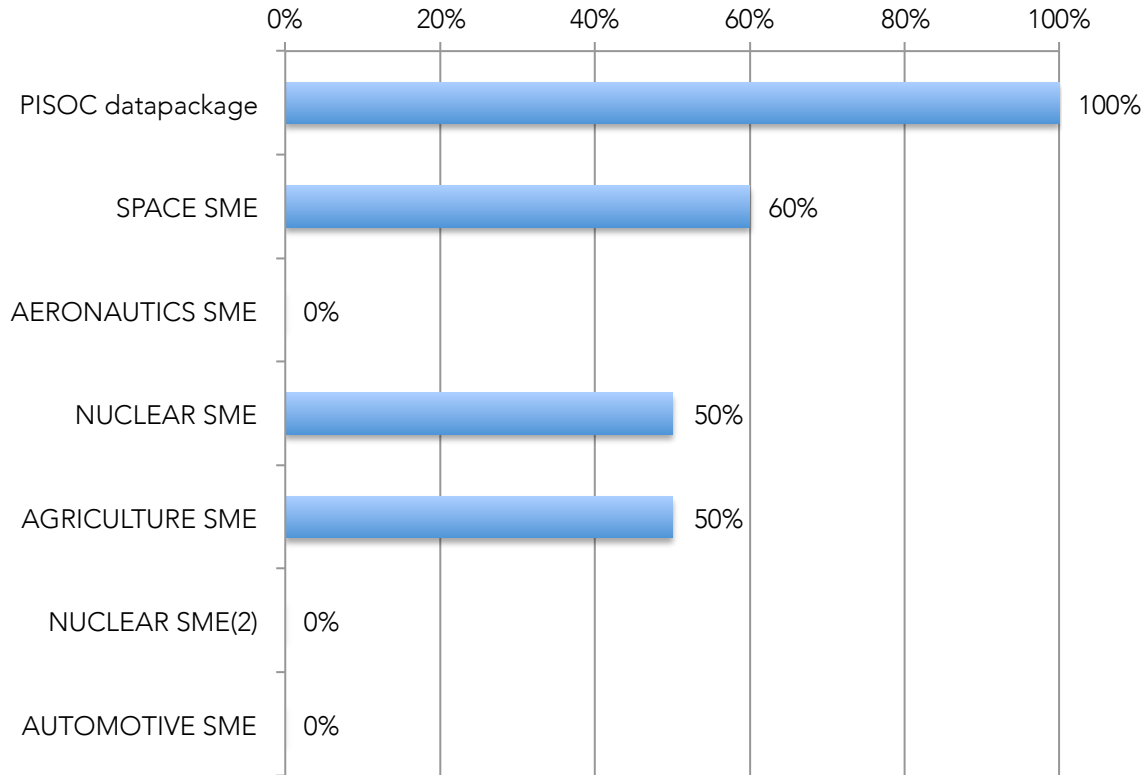
Selecting SMEs



- 11 candidates
- 4 first selected for:
 - Dynamism
 - Motivation for improve their engineering
 - Diversity in size (from 10 to 200 people)
 - Diversity in localisation (Occitanie)
 - Diversity in sectors (space, agriculture, nuclear, aeronautics)
- 2 others SME will be supported voluntarily
- **6 SME finally selected**



Progress



About 40%

KOM Training Interviews Recommendations Improvement plan Monitoring Feedback

First feedback

- From the 3 started assessment, SME feedback is :
recommendations are **relevant, effective** and **pragmatic**
- **Skills required** for assessors team (2 assessors by SME)
 - In-depth knowledge of SE
 - Knowledge of SME consulting
 - Practice maturity model evaluation
 - Practice change management
- Assessors have to **adapt** very quickly to the SME **vocabulary**
- Relying on **SME business objectives** is very powerful, it mobilizes the interest of managers but you must ensure that business objectives are "mature"

First feedback

- Initial 3 hours **training** on system engineering and project steps **awareness helps** evaluated people in appropriates the results
- **Segment projects** (by size, complexity, etc.) is very effective in defining the **applicability** of the recommendations
- Initialization, Evaluation and Definition have to be done in a **short time** (not to exceed 2 months)

Next steps

- PISOC level
 - Finish project and **build full recommendations**
- Dissemination
 - Based on AFIS recommendations, **deployment** of a team of consultants
 - **Share** with others AFIS regional chapter initiatives
 - Share results with **others initiatives** worldwide
- Animation
 - **Website** to be created
 - **One seminar** a year to share best practices with SMEs and consultants

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