



# INNOVATION MANAGEMENT SYSTEMS IN TUNISIA: Programs, the model and case studies



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# Summary

- **CONTEXT / BACKGROUND**
- **THE GIZ INNOVATION MANAGEMENT PROGRAMS IN TUNISIA**
- **ELEMENTS OF THE INNOVATION MANAGEMENT SYSTEM**
- **IMPLEMENTATION OF AN INNOVATION MANAGEMENT SYSTEM**
- **STUDY CASES**
- **CONCLUSION / LESSONS LEARNED**



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# Innovation

- Many definitions: anticipation of the market, continuous improvement, competitive advantage / performance invention, added value, etc.
- **Innovation is " the implementation of a new or significantly improved product (goods or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations". Oslo Manual - third edition 1995.**



# Background

The innovation management in the industry is recent in Tunisia.

The first workshops in **2006** have been carried out by the API (Agency of Promotion of the Industry), the design of eight Technology Centers and the creation of the ANPR (National Agency for the Promotion of Research) in 2008 upon the Government adoption of the XIth Economic Development Plan 2007 - 2011.



Since this date **(2006)**, several mechanisms of financing innovation have been introduced by the Government to fund units and laboratories in Universities with collaboration with the industry

In **2008**, in order to meet the demand of the Tunisian Government, GIZ (formerly GTZ) - launched a new program called Support Program for Entrepreneurship and Innovation. It is through this program that an important work on IMS was realized.



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The GIZ (German Cooperation) that has been working in Tunisia since 1975 implements projects and programs on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ) and other donors. The Program for Innovation Management is called **“Support for small and medium-sized industries”**.

**Jan 2004 - Dec 2007**, the program contributed to the implementation of the Upgrading Program of the Industry (known in Tunisia as PMN). Since the Association agreement with the E.U came into effect in January 2008.



## Since 2008:

- Surveys on innovation and business climate for start-ups have been carried out in order to give policy makers the information they need.
- Actors promoting innovation and business start-ups are supported by goods, personnel and organizational development.
- Continuing training in innovation management is offered in-companies: innovation management is introduced to businesses.
- Higher education and research institutions are improving tools to urge competition among business start-ups, spin-offs and incubators, the program no longer focuses on improving competitiveness but rather on strengthening demand-driven innovation processes and providing support to business start-ups



**2008** : initiation of the approach of Innovation Management : test in an enterprise carried out in 2008-2009 as part of a training project

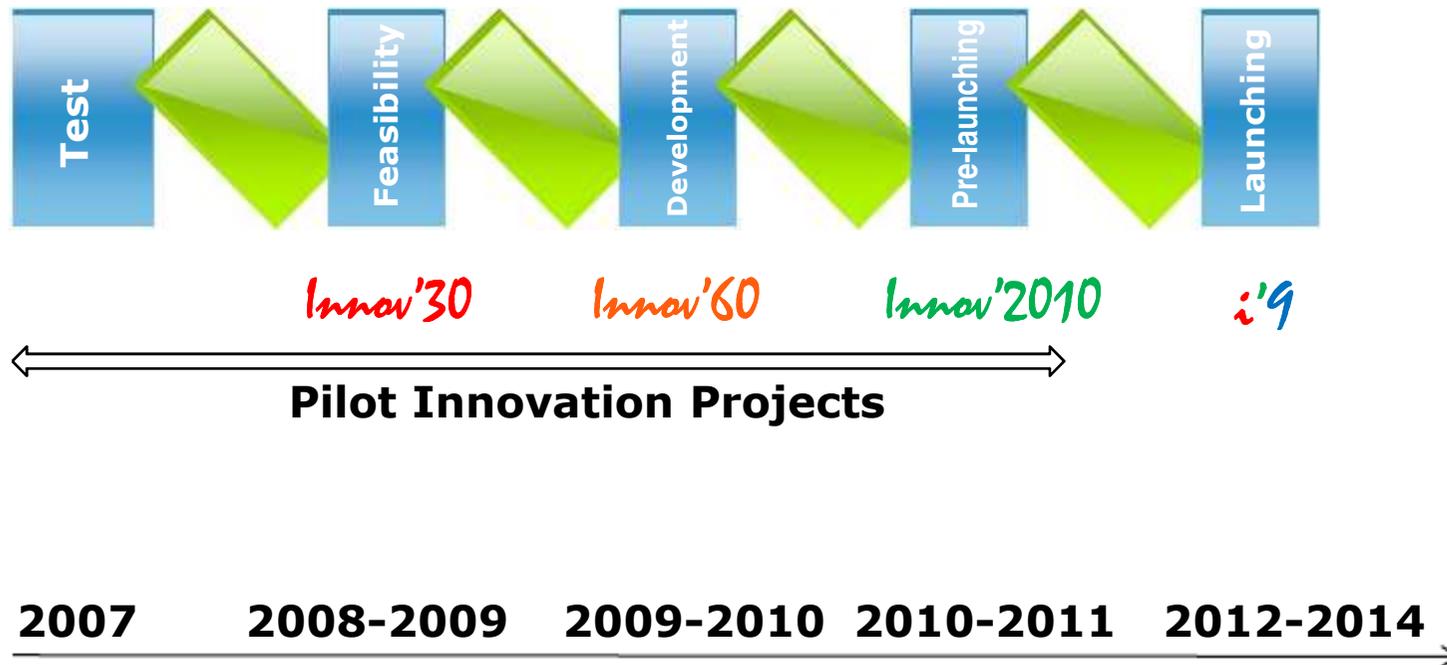
**2008 – 2009** : INNOV '30: setting IMS in 30 industrial companies in assorted sectors and the training of 17 consultants. The IMS prerequisites are specified in a Good Practices Guide called MERIT 100.

**2009-2010** : INNOV '60: involved 60 companies, 14 consultants and 12 experts from local organizations.

**2010-2011** : INNOV '2010 project involved ten service companies, local organizations supporting innovation as well as 14 consultants. The approach was different: a complete management diagnostic was realized before the establishment of an IMS.



**Currently, and during the period 2012-2014, a fourth ambitious project called I9 including 200 industrial enterprises or services related to the industry is in the pipeline.**





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# Management System

Four interrelated and interdependent elements:

- Company's organization (structure, relationships between personnel)
- Staff company
- Equipment and infrastructure
- Processes / procedures of work





# Innovation Management System

ISO 9000:2005 § 3.2.1 defines a **system** as "a set of interrelated or interacting elements"

ISO 9000:2005 § 3.2.2 defines a **management system** as a "system (§ 3.2.1) to establish policy objectives and to achieve those objectives"

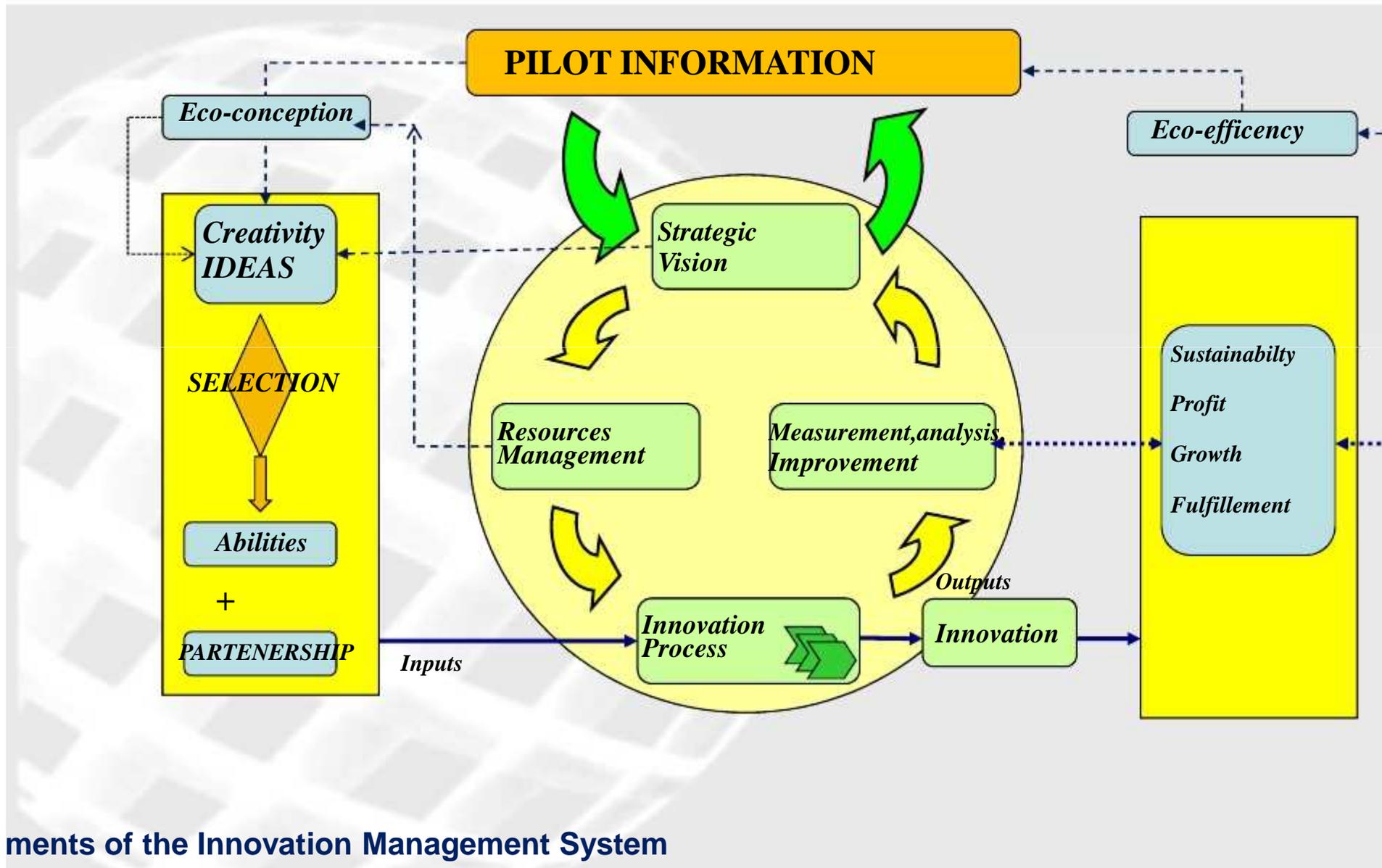


**Innovation Management System** is "a set of interrelated or interacting elements to establish policy objectives and to achieve those objectives in innovation"



Tunisian standard NT 110.332 (December 2012) relative to Innovation Management - Requirements defines a **management system by innovation** as a "management system which anticipates developments, seizes opportunities, solves problems, manages risks and achieves results generated by innovation"

# INNOVATION MANGEMENT SYSTEM THE MODEL



lements of the Innovation Management System



# Tunisian standard NT 110.332

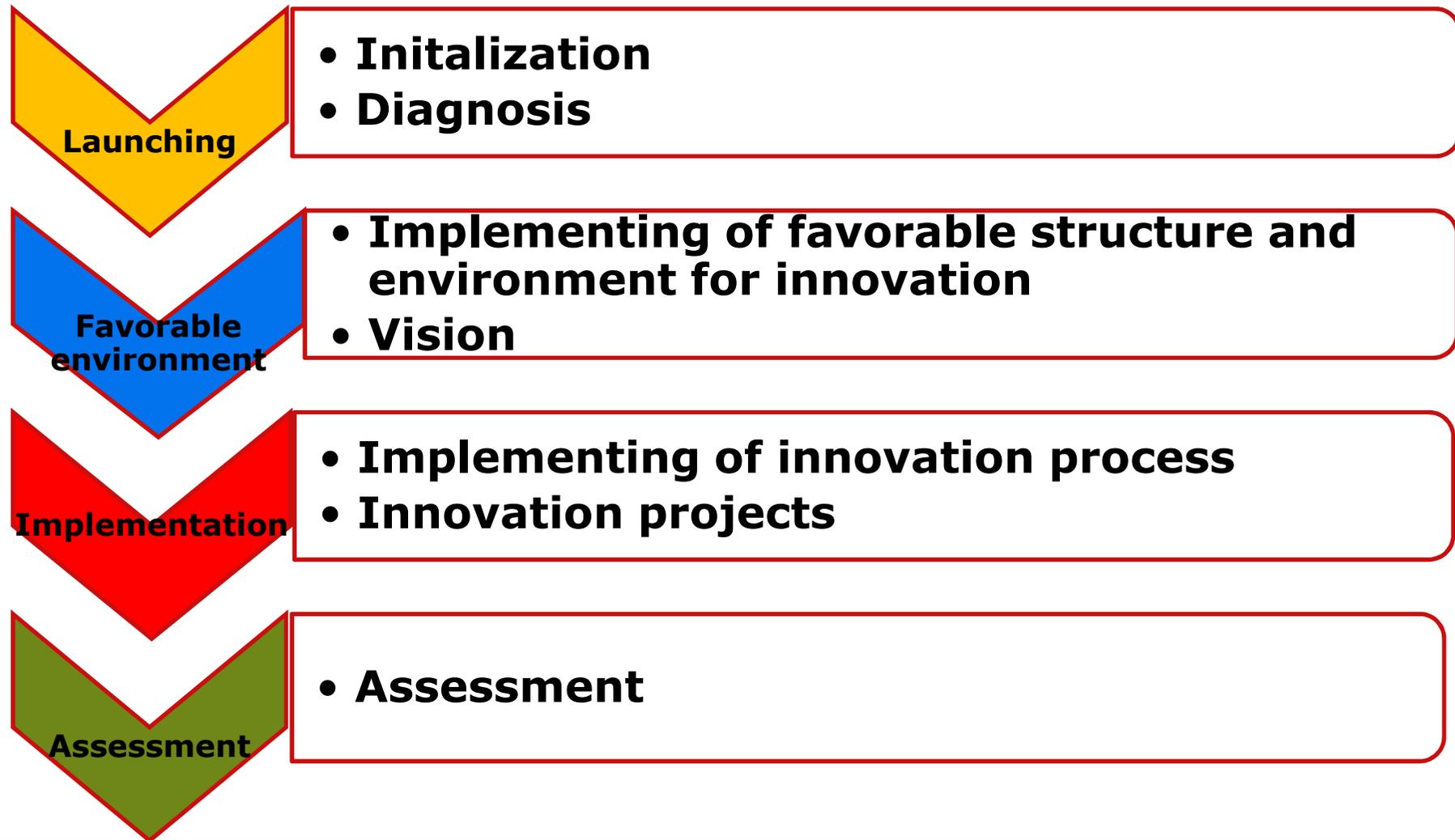
- Introduction
- A systematic approach to innovation
- Recognition
- From Innovation Management To Management BY Innovation
  
- Management system through innovation - Requirements
  - 1. Scope**
  - 2. Terms and definitions**
  - 3. Management Performances management innovation**
  - 4. Strategic Management**
  - 5. Management of resources**
  - 6. Innovation Management**
  - 7. Monitoring, measurement, analysis and improvement**
  
- Bibliography.



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Although there is not a unique or standard method of implementation, as for any management system, GIZ and the consultants who worked on the development of the IMS preconize the following 4 steps / stages:





The implementation is made through :

- A consulting mission led generally by one innovation consultant during 20 man days and lasts nearly 10 months.
- Training intra company is conducted by the consultant on topics such as: creativity, project management, technological transfer, etc.
- Training is also offered to Innovation Responsible Manager through a cycle of six trainings in intercompany sessions.
- The assessment (2 m.days) is realized by a qualified auditor.



- **More than 40 qualified consultants have been trained by GIZ since 2008 and are working with companies.**
- **During the implementation, sessions of creativity / mind mapping are realized within the company, innovation ideas are gathered, selected and prioritized.**
- **Vision of the company is defined or formalized.**
- **Then, one or more ideas are developed in innovation projects, led on a project management basis.**



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Elements	Company 1	Company 2	Company 3	Company 4
<b>Sector/ Activity</b>	Manufacturing injection plastic auto parts and tubes performing	Design, manufacture and sale of power cables, signaling, telecom and data	Design, production of electrical transformers	Mechanical cutting on CNC machines
<b>Nationality of owners</b>	Italian	Tunisian	Tunisian	Tunisian
<b>Location</b>	Hammamet - 60km north Tunis	Bizerte - 60 km south east Tunis	Suburb of Tunis	Sfax – 275 km south Tunis
<b>Employees /rate of graduate managers</b>	105 / 10%	500 / 30%	70 / 14%	115 / 20%
<b>Export(%)</b>	100%	70%	5%	2%
<b>Turn over</b>	3 – 4%	< 1%	2%	< 1%
<b>Main elements of Innovation diagnosis</b>	ISO 9001/ISO TS 1649 - Strong involvement of the Head Manager - Participatory Management - Lack of formal watch system and project management	ISO 9001 - Low presence of the Head Manager - Rather directive Management - Lack of formal watch system and project management	ISO 9001/OHSAS 18001 - Low presence of the Head Manager - Rather directive Management - Lack of formal watch system and project management	ISO 9001 /ISO 14001 - Very strong involvement of the Head Manager - Participatory Management - Lack of formal watch system and project management



<b>Innovation quotient</b>	30%	52%	31%	59%
<b>Main elements of the action plan</b>	<ul style="list-style-type: none"> <li>- Innovation training: 4 intra sessions (Innov. Committee) + 6 inter sessions (1 responsible)</li> <li>- Development and documentation of innovation process</li> <li>- Use of quality tools and techniques (5S, Kanban, etc.)</li> <li>- Implementation of a watch system</li> <li>- Implementation of marketing tools</li> </ul>	<ul style="list-style-type: none"> <li>- Innovation training: 5 intra sessions (Innov. Committee) + 6 inter sessions (1 responsible)</li> <li>- Development and documentation of innovation process</li> <li>- Use of quality tools and techniques (5S, Kanban, etc.)</li> <li>- Implementation of a watch system</li> <li>- HR development</li> </ul>	<ul style="list-style-type: none"> <li>- Innovation training: 3 intra sessions Innov. Committee + 6 inter sessions (1 responsible)</li> <li>- Development and documentation of innovation process</li> <li>- Use of quality tools and techniques</li> <li>- Use of creativity tools</li> <li>- Implementation of a watch system</li> <li>- HR development (motivation, etc.)</li> </ul>	<ul style="list-style-type: none"> <li>- Innovation training: 3 intra sessions Innov. Committee + 7 inter sessions (1 responsible)</li> <li>- Development and documentation of innovation process</li> <li>- Use of quality tools and techniques (5S, Kanban, etc.)</li> <li>- Implementation of a watch system</li> <li>- Implementation of marketing tools</li> </ul>
<b>Duration of implementation</b>	12 months	12 months	11 months	11 months
<b>Period</b>	06/2012-05/2013	05/2012-04/2013	01/2013- 11/2013	01/2013- 11/2013



<b>Outputs of the mission</b>	<ul style="list-style-type: none"> <li>- 1 Innovation Management Responsible</li> <li>- Operational innovation team</li> <li>- Complete sample of Innovation process, procedures, forms</li> <li>- Integration of IMS in QMS</li> </ul> <p>- 3 innovations led</p>	<ul style="list-style-type: none"> <li>- 1 Innovation Management Responsible</li> <li>- Operational innovation team</li> <li>- Complete sample of Innovation process, procedures, forms</li> <li>- Integration of IMS in QMS</li> </ul> <p>- 3 innovations led</p>	<ul style="list-style-type: none"> <li>- 1 Innovation Management Responsible</li> <li>- Constitution of innovation team</li> <li>- 80% sample of Innovation process, procedures, forms</li> <li>- Partial Integration of IMS in QMS</li> </ul> <p>- 3 innovations led</p>	<ul style="list-style-type: none"> <li>- 1 Innovation Management Responsible</li> <li>- Operational and effective innovation team</li> <li>- Complete sample of Innovation process, procedures, forms</li> <li>- Integration of IMS in QMS</li> </ul> <p>- 3 innovations led</p>
<b>Proposals of ideas</b>	40	60	35	110
<b>Innovation projects</b>	<ul style="list-style-type: none"> <li>- Implementation of Business Management Units</li> <li>- Redevelopment of the area control</li> <li>- Construction of a cutting machine</li> </ul>	<ul style="list-style-type: none"> <li>- Cable classification CPR method</li> <li>- Adoption sheathing line (serial cable 88)</li> <li>- Implementing ISO 14001 and OHSAS 18001</li> </ul>	<ul style="list-style-type: none"> <li>- 5S</li> <li>- Optimization of the range of electrical transformers</li> <li>- Tracking of transformers' components</li> <li>- Variable diameter templates</li> </ul>	<ul style="list-style-type: none"> <li>- 5 S</li> <li>- Optimization of production parameters of CNC machines</li> <li>- Computer-aided Monitoring production</li> <li>- Lean management</li> </ul>
<b>Post mortem</b>	<ul style="list-style-type: none"> <li>- Innovation process still going on (70%)</li> </ul>	<ul style="list-style-type: none"> <li>- Innovation process still going on (60%)</li> </ul>	<ul style="list-style-type: none"> <li>- Innovation process still on going (40%)</li> <li>- The pull out of the innovation manager</li> </ul>	<ul style="list-style-type: none"> <li>- Innovation process still going on (100%)</li> </ul>



The four companies have a QMS and are indeed certified ISO 9001 or ISO TS 16949. Furthermore, one is certified ISO 14001 and another OHSAS 18001. They perform in different sectors and have considerably different sizes. In the four cases, the processes of implementation are quite the same and present the same characteristics:

- **IMS Integration in the QMS**
- **Same conducted training**
- **Same established documents**
- **Practically the same outcome**



However, differences have been observed in:

- The implication and management commitment
- The quality of implementation



The success of the approach is based upon:

- **1. Involvement and strong commitment of senior management.** It is the manager who gives strong signals and directs his business in one way or another.
- **2. The participatory management** represents a strong factor of success: indeed, you cannot motivate and urge the staff to propose new ideas and improve if given the instruction to have a formal approval of the Boss!



■ **3. Prior and existing culture within the company:** we have indeed observed in the best of class high levels of knowledge sharing, daily communication, respect, firmness, discipline, accountability, attention to detail, sense of perfection in tasks, etc.



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## Generated impacts of IMS observed in a dozen companies:

- Staff training on the concepts of innovation management.
- Definition / legalization of the corporate vision and strategic axes
- Setting up of a structured / formal framework for managing ideas
- Formal project management
- Intelligence in all its forms (Competitive, strategic, normative, technological, etc.).



The success of the IMS approach depends on:

- **Complete involvement and strong commitment of senior management.**
- **The participatory management is a crucial factors of success.**
- **Culture within the company:** knowledge sharing, daily communication, respect, firmness, discipline, accountability, attention to detail and the sense of a job well done.



**Thanks for the attention!**