



## **Bern University of Applied Sciences**

Division of Computer Science and  
Competence Centre Public Management and E-Government

### **Cockpits for Swiss Municipalities –**

Adopting IT to Support Strategic- and Information Based Local  
Leadership

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## **Agenda**

1. Introduction
2. Cockpit from the Management Perspective
3. Cockpit IT Architecture
4. Demo
5. Conclusions, Further Activities and Challenges



## **The Research Project**

**Research Content:** Interdisciplinary applied R & D project

implementing business intelligence for a strategic- and information based political leadership

**Research Partners:** Division of Computer Science and Competence Centre for Public Management and E-Government, Bern University of Applied Sciences, Institute for Economy and Tourism, University of Applied Sciences Western Switzerland

**Industry und Public Partners:** Microsoft Schweiz GmbH, Ruf Informatik AG and Talus Informatik AG, Bern Cantonal Office for Municipal Affairs and Land Use Regulation as well as the Swiss Municipal Association

**Duration:** December 2007 – November 2010

**Introduction**

Cockpit Management  
Perspective

Cockpit IT  
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## Project Goals

Gemeindecockpit Wohlen

**Finanzen**

Gemeindecockpit Wohlen Bevölkerung **Finanzen** Personal Raumordnung und Umwelt Administration Massnahmenplan Ressorts

Alle Webseiten einblenden

**Dokumente**

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**Listen**

- Kalender
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**Diskussionen**

- Teamdiskussion

**Websites**

**Benutzer und Gruppen**

Papierkorb

Gemeindecockpit Wohlen > Finanzen

**Zeitfilter Vergangenheit**

Zeitfilter Vergangenheit: 2006 ; 2007 ; 2008

**Scorecard Finanzen**

	2006		2007		2008	
	Actual	Target	Actual	Target	Actual	Target
Selbstfinanzierungsgrad	72.60%	100.00%	89.02%	100.00%	107.90%	100.00%
Selbstfinanzierungsanteil	7.75%	10.00%	8.36%	10.00%	5.51%	10.00%
Selbstfinanzierung	3'010'523.61		3'300'293.24		2'170'414.11	
Finanzertrag						
Zinsbelastungsanteil	-1.10%	0.00%	-0.99%	0.00%	-1.12%	0.00%
Ergebnis laufende Rechnung	-259'702	-1'297'805	-638'568	-762'392	-570'494	-867'351
Gesamtsteueranlage...						
Liegenschaftssteuer...						
Steueranlage...						
Harmonisierter Ertragsindex (HEI)...						
Planung...						

**Report**

<b>Ziel</b>	Der Finanzhaushalt ist im Gleichgewicht
<b>Indikator</b>	Selbstfinanzierungsanteil
<b>Erwartungswert</b>	Der Selbstfinanzierungsanteil beträgt 8 - 12%

**Interpretation**

Dieser Wert gibt Auskunft über die finanzielle Leistungsfähigkeit einer Gemeinde. Je höher der Wert, um so...

**Selbstfinanzierungsanteil**

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# Cockpit in a Airplane

## Philosophy

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The pilots have all relevant information and controls available in order to fly safely to the given destination.

### **Important prerequisite**

The pilots know where they need to fly.

The pilots know how to interpret the available information, and they know how to operate the airplane



# Cockpit in a Municipality

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All relevant information are centralized and available for the municipal council as well as to the management staff.

## Important prerequisite

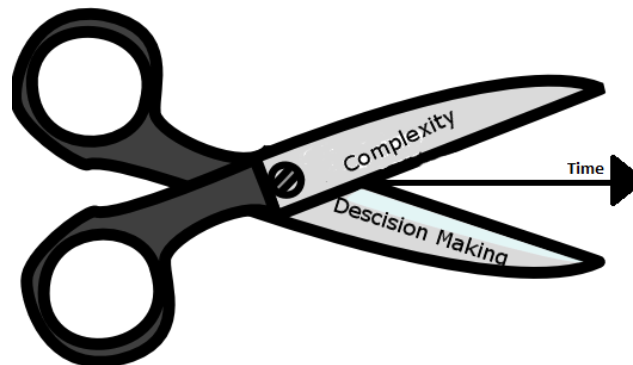
The municipal council has a strategy with measurable goals and a common defined way to reach the destination.

The users are able to use the cockpit in an intelligent manner.

# Cockpits as Management Instruments for Small Municipalities – Why ?

**Swiss municipalities** (Smallest political entities, year 2009: 2636)

- Their management is becoming increasingly difficult: complexity, responsibilities and interdependence
- Need for applications across different authorities
- Centralized data – pulled from heterogenous data sources
- Management staff are often not aware of today's information and communication possibilities



Introduction

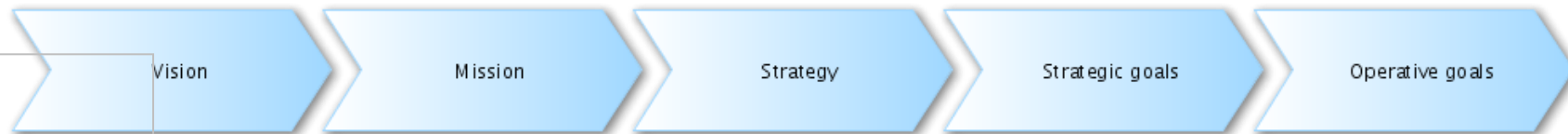
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# Requirements for Strategic and Information Based Management (SIBM)



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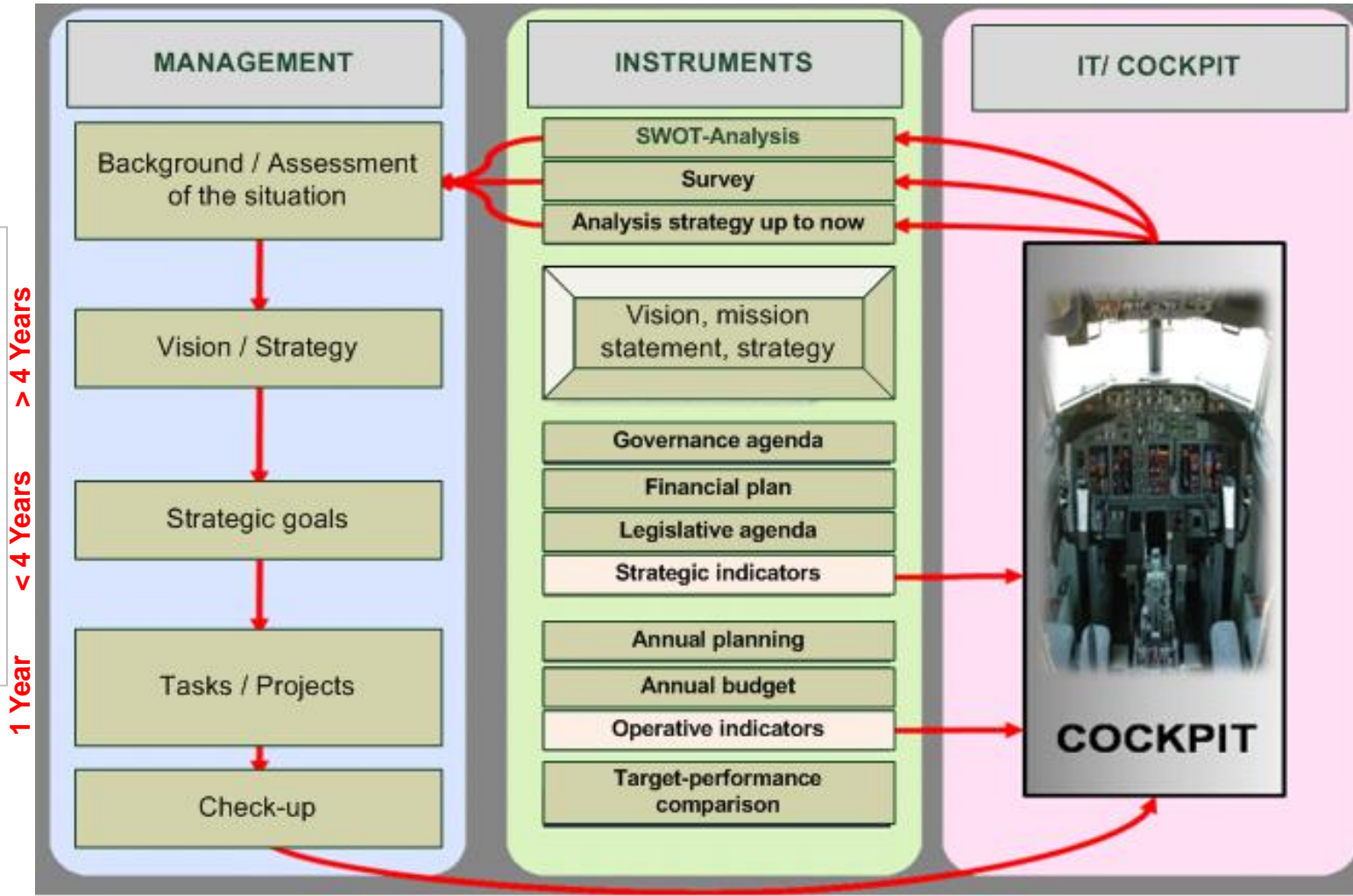
## Requirements

Strategy with measurable goals (definition of cockpit indicators); commitment to information-oriented leadership/ management and an alignment between the business- and IT-view

## Challenge

The available information has to be integrated and aggregated, which creates problems with legal interoperability and the political frame of reference

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# Cockpits as Management Instruments for Small Municipalities – Key benefits

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- Helps to close the gap between strategy definition and implementation
- Facilitates the introduction of new municipal councils
- Permits a quick analysis and assessment of a situation
- Allows a better coordination and transparency between departments
- Visualises the development of a municipality



# Designing a Cockpit Solution Architecture

## Business Intelligence

- Adapt Business Intelligence technologies and methods into an architecture suited for small and middle municipalities

## Challenges

- Achieve the necessary alignment with the business processes of municipalities
- Designing an architecture for cockpit solutions that are standardized to a large extent but easily customizable for the individual municipalities
- Design cockpits that provide the relevant information in an easily accessible and comprehensible manner

Introduction

Cockpit Management  
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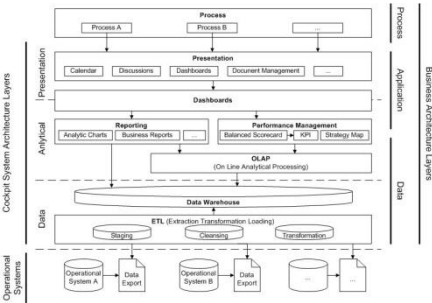
**Cockpit IT  
Architecture**

Demo

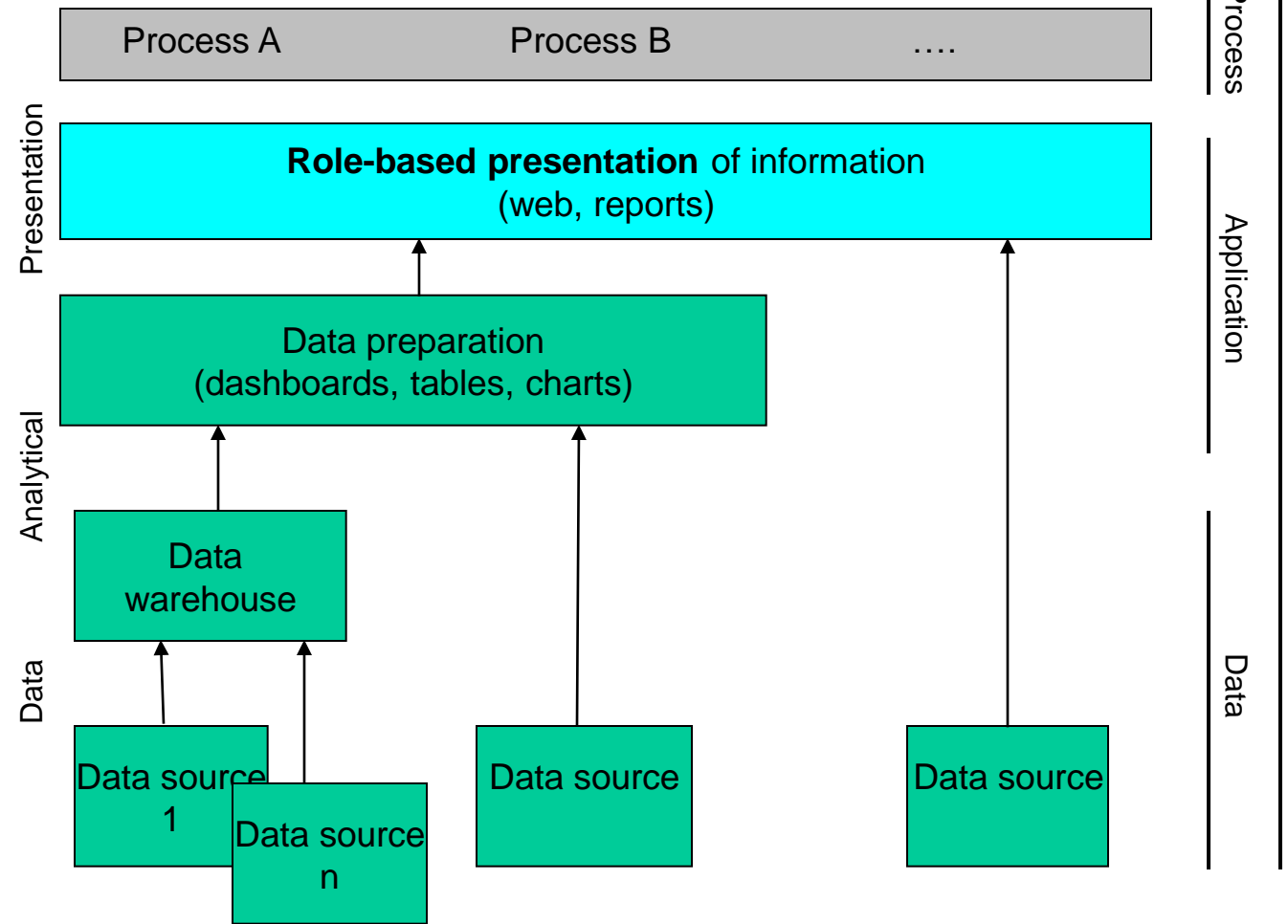
Conclusions and  
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# System Architecture

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Cockpit System Architecture Layers



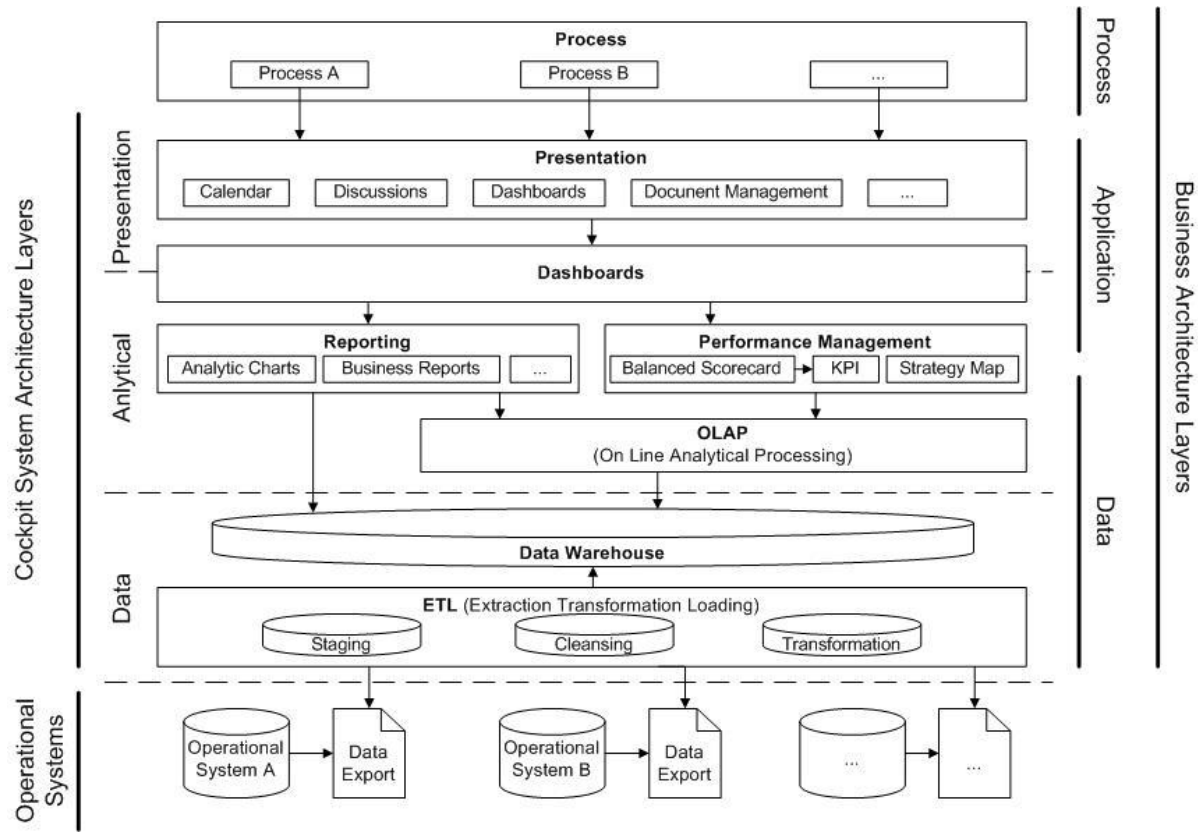
Process

Application

Data

Business Architecture Layers

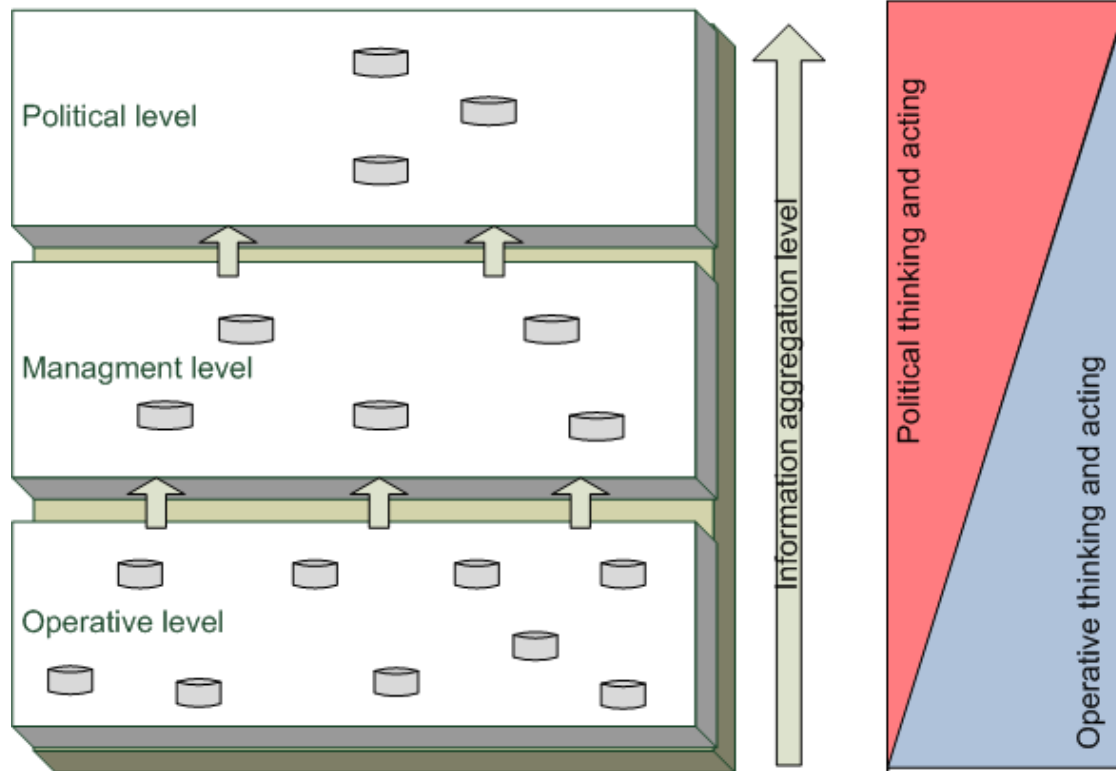
# Designing a Cockpit Solution Architecture



# Role based presentation Layer

Cockpit's role based presentation and information layout

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# The Case of Wohlen BE

## Municipality

- Population of 9'065, located next to Bern

## Strategic Management

- Five years of experience with strategic management and a paper based cockpit prior to the project

## Prototype

- Extended and enhanced version of the existing cockpits with focus of automation of processes and collaboration

## Demonstration

- Cockpit prototype for the municipality of Wohlen bei Bern

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## **Conclusions**

- Strategic thinking is less popular than direct problem solving
- Decision-makers in municipalities are not used to measurements in a political context
- Linking the perspectives of municipal decision-makers and the IT-perspectives is a critical inter-disciplinary issue
- Early prototyping increases the understanding of the instrument

## **Further Activities**

- Focus on a improved set of aggregated indicators for strategic measurement
- Implementation of a project/measurement planning tool
- Prototype integration of GIS

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## **Further Activities and Challenges**

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### **At the end of the project...**

the cockpit data will provide utility for the *strategic management* as well as for the *daily business*.

### **The huge challenge...**

is not to provide the commune with a cockpit, the challenge is to use it as a frequently used management tool.