



NATIONAL OFFICE OF BUILDING TECHNOLOGY AND ADMINISTRATION - OSLO - NORWAY

# IBCI Conference 2003

Carraig Mhacaire Rois

---

Building control in Norway and the  
Norwegian regulatory system

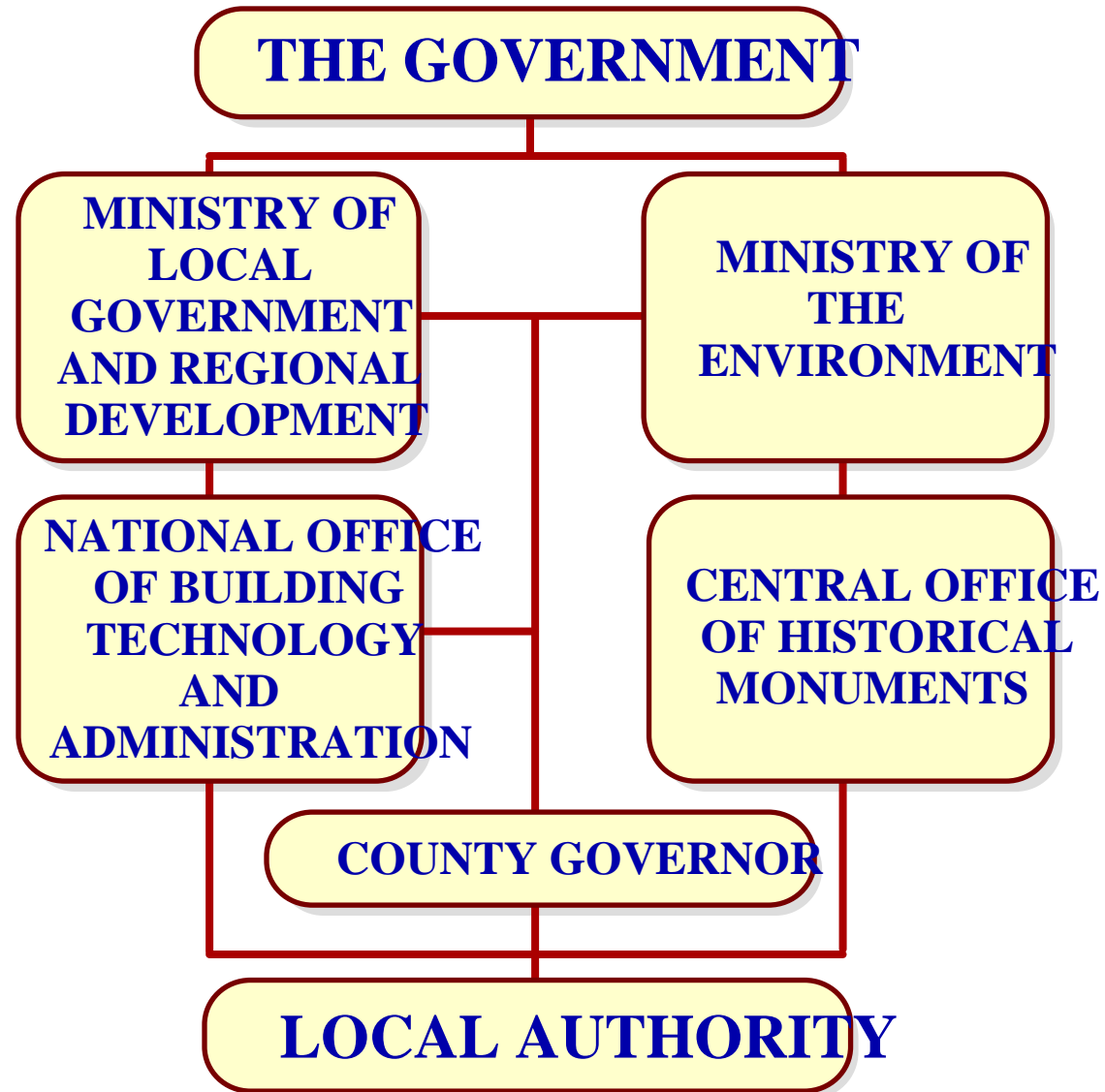
Olav Ø. Berge

Director General

NATIONAL OFFICE OF BUILDING  
TECHNOLOGY AND ADMINISTRATION



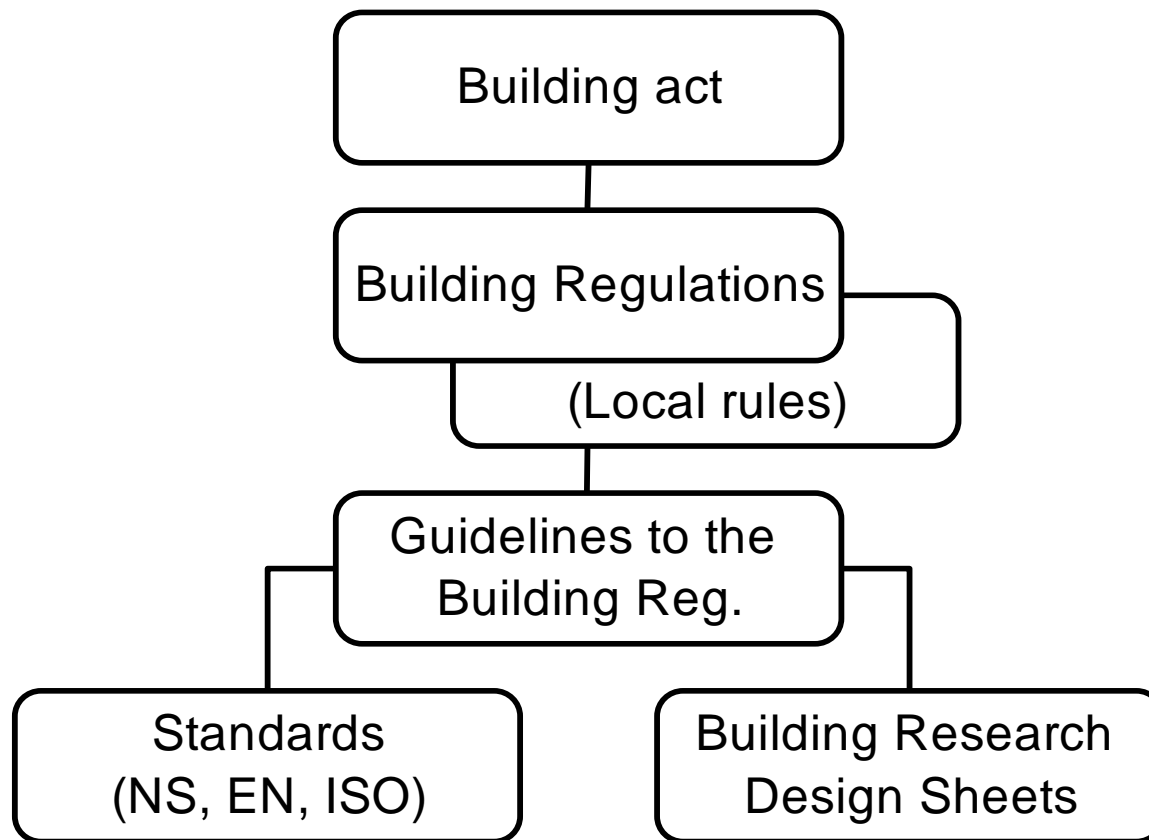
# Structure of the authorities - Norway



# Norway



# Hierarchy of building regulations



# Regulatory system - levels

**Level 1 - building code  
functional requirements**

**Level 2 - guide lines  
performance criteria**

**Level 3 - specifications (standards etc)  
accept criteria**



# Building Research Design Sheets Subseries

Architectural Planning

Building Details

Building Management and  
Maintenance



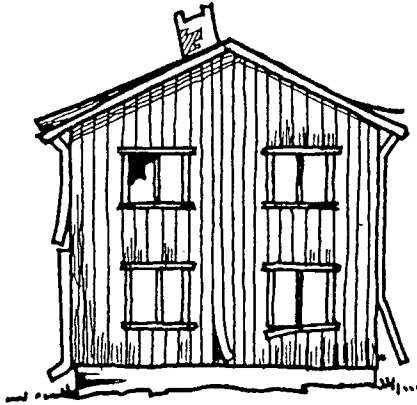
# Building Research Design Sheets - Tool for quality management

- BRDS satisfy the building regulations (functional requirements)
- BRDS have references to the building regulations
- The Guidelines for the Building Regulations give references to the BRDS
- BRDS are coordinated with the Norwegian standards
- BRDS give acceptable solutions

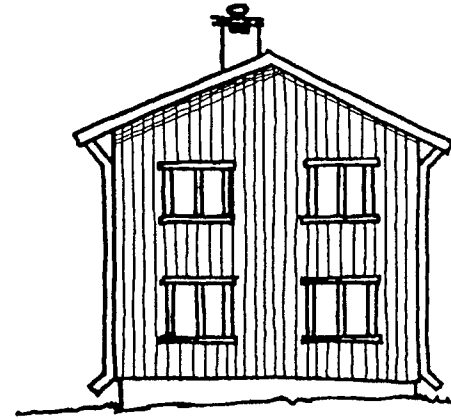




# The vision



**Building defects accounts for 2.5% of the annual turnover of the construction industry**



**More stringent rules setting out clear levels of liability, improved control, qualifications and more effective sanctions shall result in improved quality of the built environment**



# Causes of building defects

Client specifications	20 %
Insufficient design	20 %
Design faults	20 %
Faults in execution	30 %
Products and materials	10 %



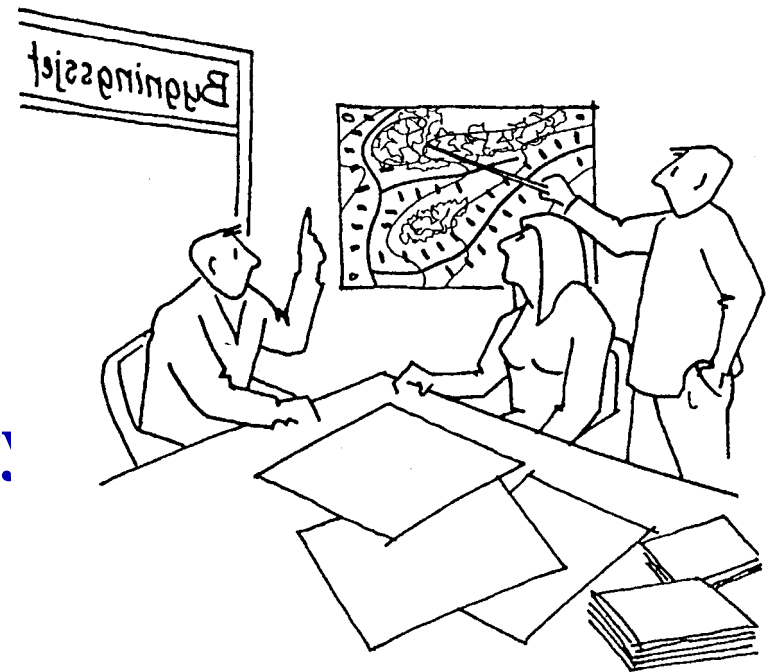
# Changes in the Act

- From building control to surveillance of control
- New procedural rules
- Need for improved knowledge
- Approval of firms for design and execution
- Systems
- New rules for accountability
- Improved quality

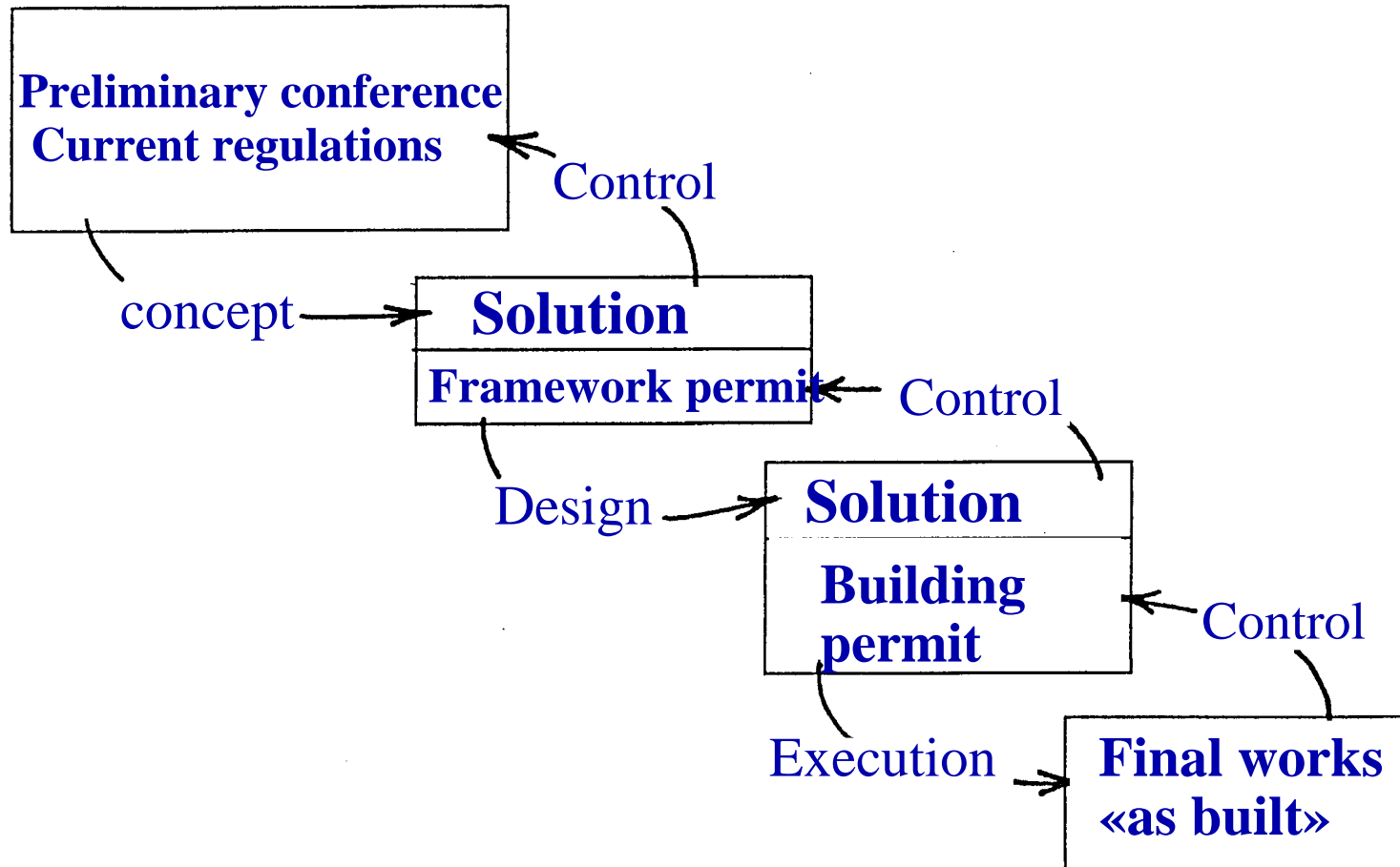


# Local authority tasks

- To ascertain that the actors have adequate competence
- To ensure that that the planning of and the execution of control is adequate
- To participate in the preliminary conference as required



# Documentation of compliance with the code



## Clients tasks

May be instructed to rectify in case of:

- areas of liability not having assigned competent actors
- there being difficulty in clarifying the actor responsible to rectify faults

The client has a duty to:

- ensure that the framework conditions as specified at the preliminary project meeting is made known
- that works exempt from requirement to apply for building permit complies with the regulations.



# New areas of liability

**Design /application** → **execution** → **completion**

**Accountable applicant**

**Accountable coordinator**

Accountable designer

Accountable contractor

All accountable parties

Accountable designer

Accountable contractor

Accountable designer

Accountable contractor

Control  
Internal/  
independent

Control  
Internal/  
independent

Control  
Internal/  
independent



# Classification of works

## Class 1

simple works with  
minor consequences

## Class 2

small degree of difficulty and  
medium consequences

medium degree of difficulty  
and minor to medium  
consequences

## Class 3

medium degree of difficulty  
and serious consequences

large degree of difficulty and  
minor, medium or large  
consequences

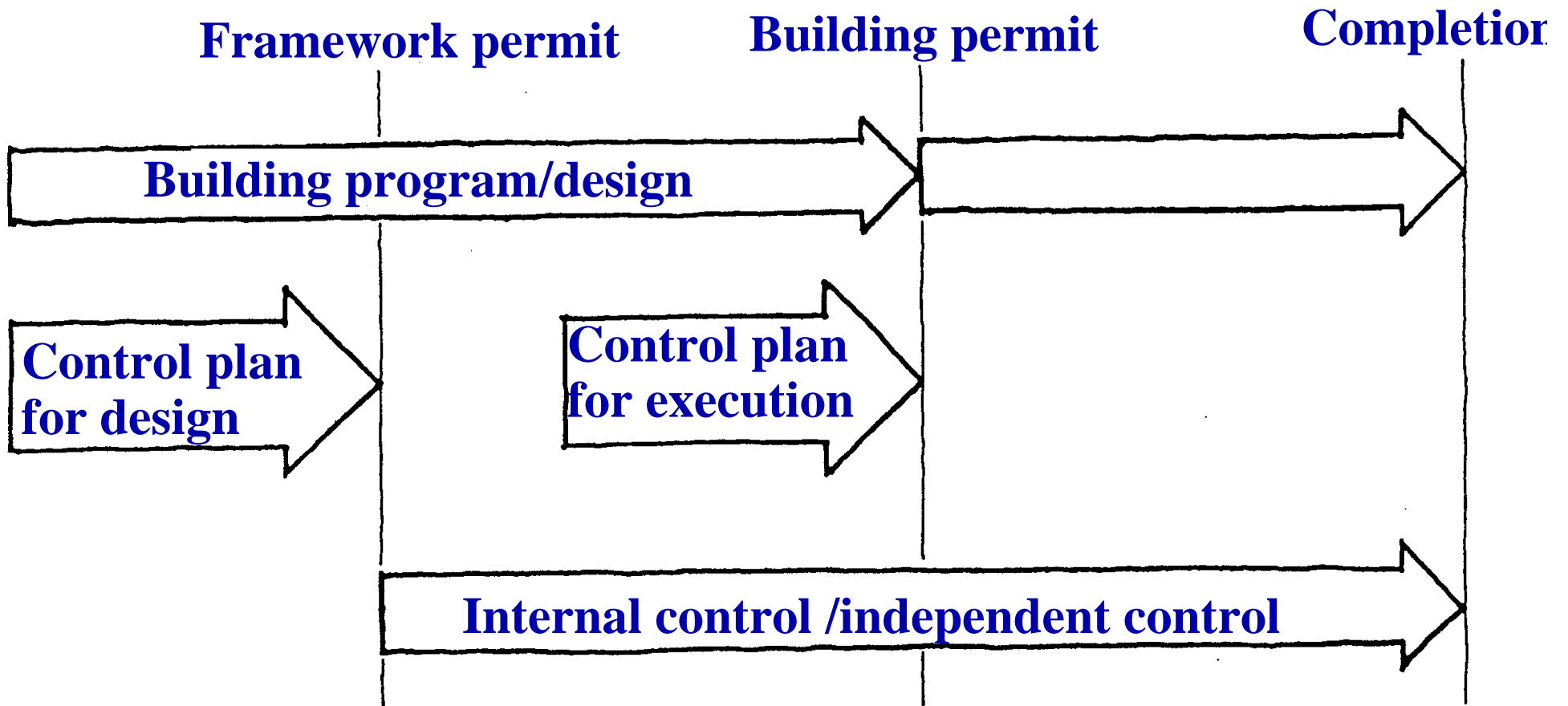




Role	Activity	Class
Applicant	Building design	2
Designer and design controller	Architectural	2
	Building physics	2
	Structural	2
	Geotechnical	3
	Technical services	2
Contractor and execution control	Digging, trenching	3
	Concreting	3
	Building works	2
	Sanitary & plumbing works	2
	Sprinkler	3
	Ventilation	2



# Control plans



# Conditions for approval of firms

registered company

educational level of staff

experience

knowledge of the planning and building act

quality system



## Surveillance Report

Commencing without bldg permit	27%
Faulty execution	14%
Inadequate control	22%
Inadequate application	15%
Faulty design	5%
Inadequate deviation handling	3%
Occupation before authorisation	6%
Other	9%



## Quality Systems Ranking

- a) the system is adequate and in use
  - b) the system exists, but should be improved and employed
  - c) the system should be improved and will be checked on renewal (no immediate action)
- 
- d) the system has shortcomings and must be improved (Requirements will be specified)
  - e) the system has serious shortcomings, or is not in use. (Requirements will be specified)
  - f) the system is evidently not in existence
- Documentation shall be submitted without delay.



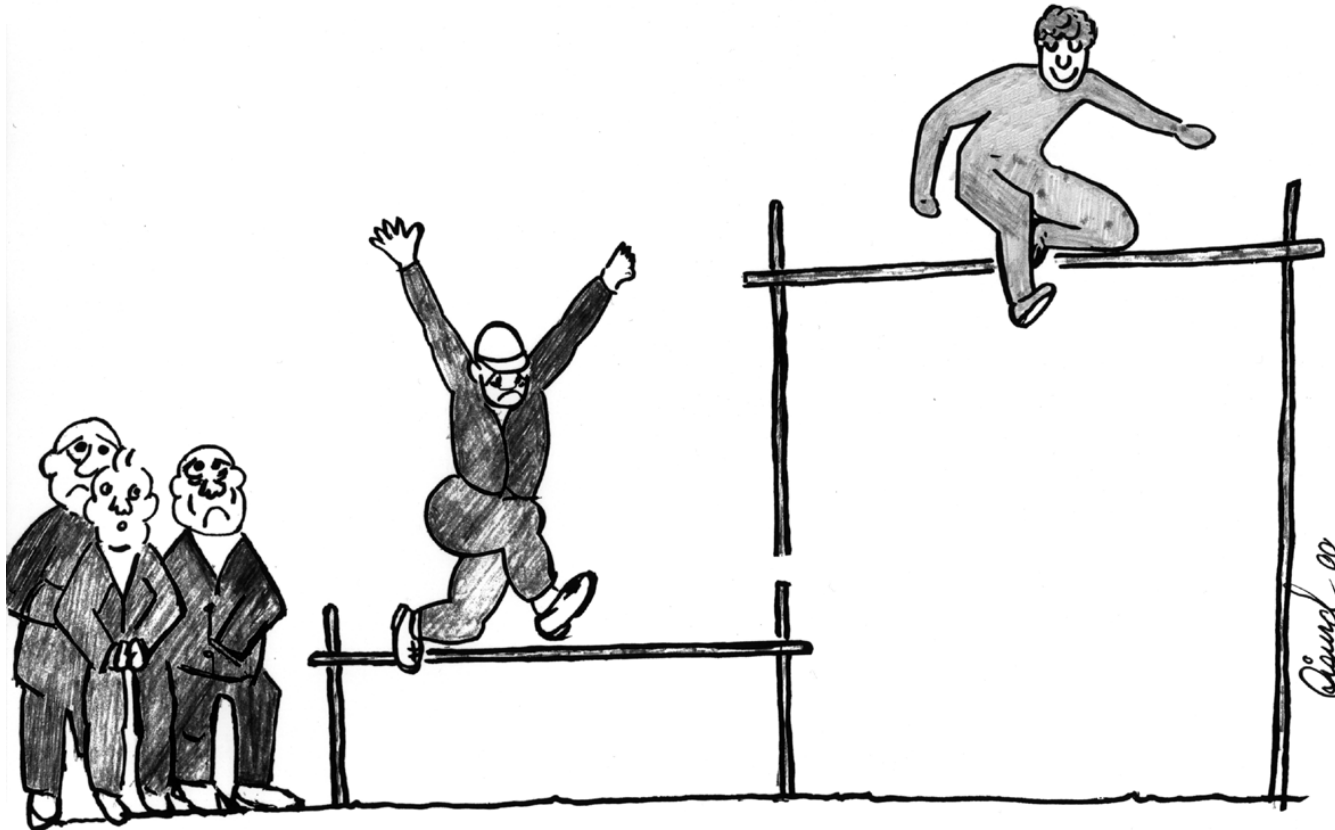
# Quality systems

## Statistical survey 52 firms

Categories	total	a)	b)	c)	d)	e)	f)
1 Architects	8			8			
2 Consultants	7	3	2	2			
3 House builders	16	5	1	7	1	2	
4 Contractors	2		1	1			
5 Other builders	0						
6 Plant contractors	6	1		5			
7 Building services	10	2	4	3	1		
8 Contr. managemnt.	0						
9 Specialist cont.	3	3					
10 Turnkey contractors	0						



# Where to place the quality bar

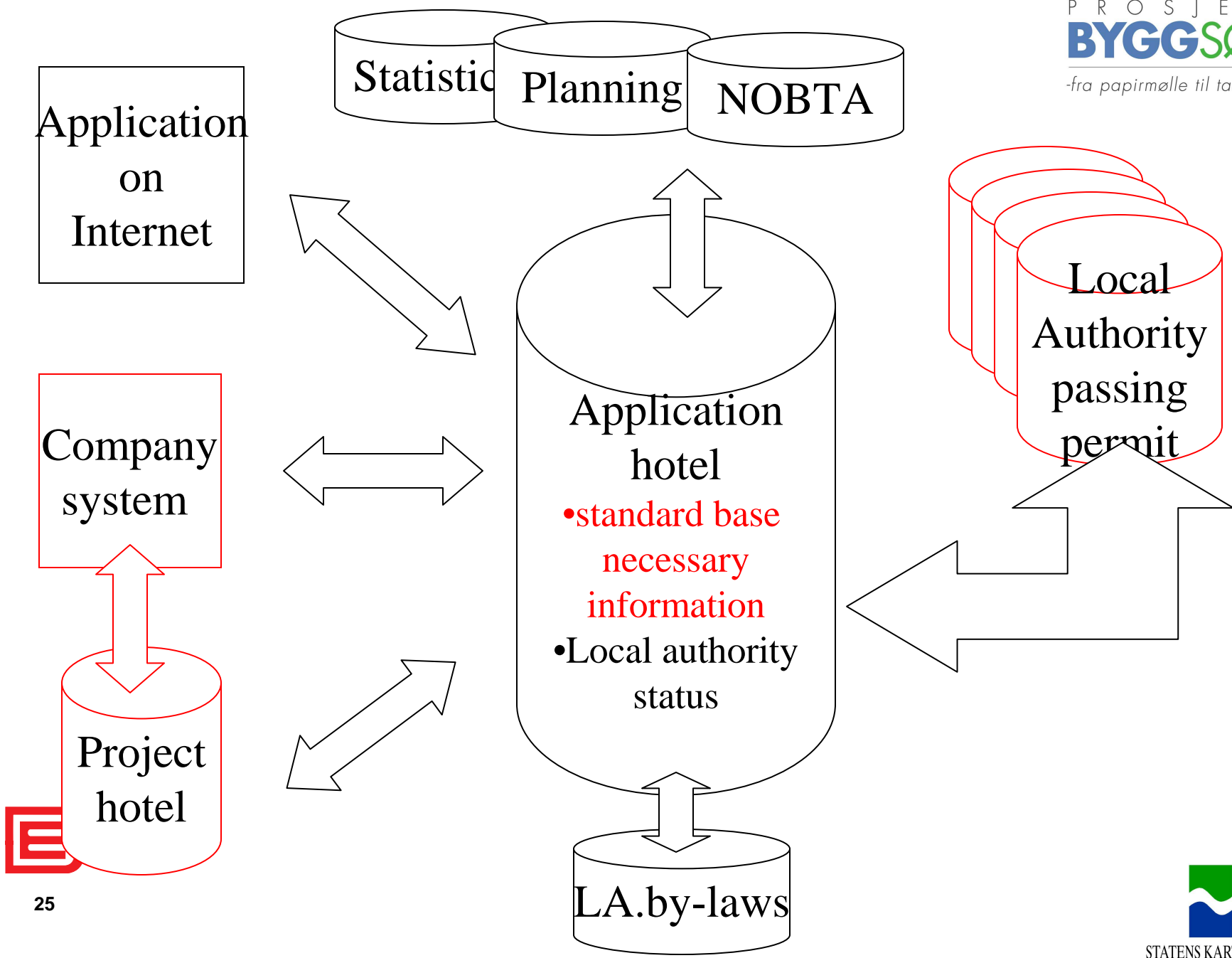


# The vision

- All information necessary to submit a complete application for building permit shall be available on internet
- ⇒ Applications may be sent, fees may be paid and permits may be received by internet
- ⇒ Status and progress in passing the plans may be monitored by internet









NATIONAL OFFICE OF BUILDING TECHNOLOGY AND ADMINISTRATION - OSLO - NORWAY

On the web

---

[www.be.no](http://www.be.no)