The CEEC Code for Cost Planning

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on behalf of
The European Council of Construction Economics CEEC
http://www.ceecorg.eu/

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CEEC: Members and Objectives

Members from

- Belgium
- Ireland
- Netherlands
- France
- Italy
- Poland
- Czech Republic
- Switzerland
- Germany
- Denmark
- Spain
- UK
- Portugal

Objectives include:

- Exchange of information and harmonisation of working methods
- .. but harmonisation doesn't have to mean we all end up doing things in exactly the same way. Indeed this would be the end of any innovation.

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CEEC Code: Starting Point

Colloquium CEEC / AEC / EPFL 2. October 1998
Comparison of internation examples of costs planning for a standard building (Bent's Building)

- All countries use functional elements as a basis

but …

- They use different elemental classifications
- Reference areas are defined differently
- Scope of costs is not directly comparable

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Typical cost classifications

- **SfB Table 1**
- **BCIS Standard Form of Cost Analysis**
- **Die Elementkostengliederung EKG (SN506 502)**
- **DIN 276 Kosten im Hochbau**
- **ÖNORM B 1801-1 Kosten im Hoch- und Tiefbau**
- **UNTEC**
- **Uniformat**

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Gross Floor Area: national definitions

"Bent's building"

Switzerland	2'875 m2	100%
Holland	3'007 m2	105%
France	3'412 m2	119%
UK	2'585 m2	90%
Ireland	2'585 m2	90%
Finland	2'758 m2	96%
Denmark	1'800 m2	63%
Spain	1'800 m2	63%

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Examples of scope of costs

Country	Building	External works	Planning fees	Land costs	Finance
Switzerland					
Holland				0	0
France			0	0	0
UK				0	0
Ireland				0	0
Finland				0	0
Denmark					
Belgium				0	0

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CEEC models for pan-european comparisons

- **Detailed comparison of unit rates by trades**
- **More interest on higher level comparative data**
- **Concordance Document (yet another classification!)**
- **Initial CEEC-Model for basic data (Cornellisen model)**
- **Working group for Code of measurement established in 2002**
- **Concept on CEEC code of Measurement presented in Brussels 2003**
- **Code published in January 2004**
- **Minor revision January 2008**

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CEEC Working group

Working Group:
- **Martin Wright (Switzerland, chairman)**
- **Gerry O'Sullivan (Ireland / CEEC vice president)**
- **Joe Martin (UK)**
- **Peter Schmid and Ulrike Frauendorf (Germany)**

Additional input :
- **Michel Coubès (Switzerland)**
- **Michel Ducroux / Jaques Moreau (France)**
- **Pekka Montin (Finnland)**
- **Peter van der Pijl / David Meijer (Holland)**
- **Sabine Pierson (Belgium)**
- **Yollanda Garcia Prada (Spain)**

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CEEC-Comparative data (Cornelissen-model)

Office buildings

costs per unit (excl. taxes & project development)
update 2000 may

		Small: « 500 m²				Average				Large: » 5000 m²			
	Simple (1, 2 or 3)												
Facade:	plain, sober	Kr1:305m2	(0,82)			Kr2:2520m2	(0,56)			Kr3:6690m2	(0,68)		
Roof:	flat or slightly inclined												
Lay-out:	simple - few units												
Terrain:	minimal												
m2gfa	**Construction** (tot) :	478 E		LCC	maint/jr	551 E		LCC	maint/jr	610 E		LCC	maint/jr
m2b S	Substructure	*1,966*	6%			*0,503*	10%			*0,333*	10%		
m3s C	Constr. Skeleton	*2,608*	19%			*2,977*	31%			*2,961*	31%		0,00 E
m2s R	Roofs	*1,932*	28%	1,8%	1,08 E	*0,496*	7%	1,8%	0,55 E	*0,329*	5%	1,9%	0,62 E
m2s F	Facades	*0,620*	29%	2,7%	7,86 E	*0,446*	19%	2,4%	3,17 E	*0,296*	18%	2,9%	6,18 E
m2sfa	Interior	*0,966*	7%	2,3%	0,81 E	*0,992*	8%	2,3%	0,60 E	*0,987*	9%	2,6%	0,89 E
m2sfa	Techn.infra / Utilities	*0,966*	10%	11,4%	6,30 E	*0,992*	17%	10,4%	4,48 E	*0,987*	23%	12,7%	9,84 E
m2n E	Exterior	*0,036*	0%	1,4%		*5,275*	7%	3,2%	0,14 E	*1,943*	4%	2,9%	0,21 E
	(Period.) **Maintenance** :		2,9%		13,84 E		1,4%		7,45 E		2,1%		13,03 E
m2gfa	**Lifecyle Costs** (tot) :		5,8%		27,70 E		2,8%		15,26 E		3,9%		23,55 E

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An excellent model, but without definitions!

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European Code of Measurement: Objectives

Quantites:

- Definition of basic quantities
- Definition of principle of net measurement
- Definition of references to national standards

Costs:

- Definition of high level cost groups
- Definition of references to national contents
- Creation of a standard analysis format

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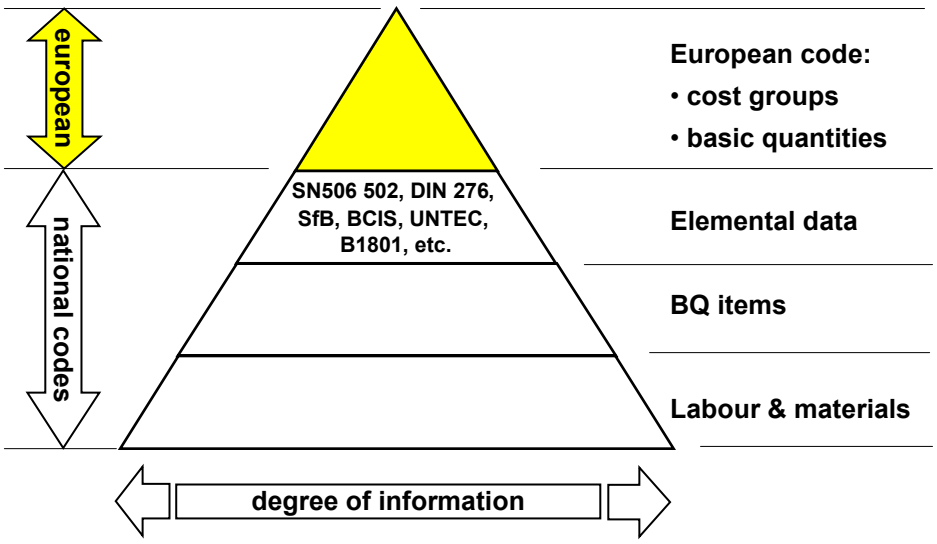
European Code of Measurement: Concept



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General principles

- The structure is designed to permit the use of the existing national classifications at a more detailed level of information (subsidiarity principle)
- Not all Cost Groups or Basic Quantities will be applicable in every country.
  Where Cost Groups or Basic Quantities are not used this will be clear and avoid misunderstandings on scope and content

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CEEC Code of Measurement: Contents

- List of cost groups and basic quantities
- Definitions of Cost Goups
- Definitions of Basic Quantities
- Standard form of cost analysis
- Documentation

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Cost Groups (English, French and German)

	CONSTRUCTION COSTS		COUTS DE CONSTRUCTION
A	Preliminaries	A	Installations de chantier, échafaudages
B	Substructure	B	Fondations
C	External superstructure / envelope	C	Structure externe / enveloppe
D	Internal superstructure	D	Structure interne
E	Internal finishings	E	Finitions intérieures
F	Services installations	F	Installations
G	Special equipment	G	Equipement spéciaux
H	Furniture and fittings	H	Fourniture équipements
I	Site and external works	I	Aménagements extérieurs
	etc.		etc.
	DESIGN AND INCIDENTAL COSTS		**DESIGN ET COÛT ACCIDENTELS**
L	Design Team fees	L	Honoraires design
M	Ancillary costs and charges	M	Charges et coûts auxiliaires
	etc.		etc.
	COSTS IN USE		**COUTS D'EXPLOITATION**
P	Maintenance	P	Maintenance
Q	Operation	Q	Exploitation
	etc.		etc.
	LAND AND FINANCE		**TERRAIN ET FINANCE**
U	Land costs	U	Terrain
V	Finance	V	Finance
	etc.		etc.

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Definitions (English, French and German)

E Internal finishings

Definition

Internal floor, wall and ceiling finishes including screeds, raised floors, internal panelling and cladding, suspended ceilings, decoration and finishes to balconies.

Belgium / Switzerland SN 506.502/2000

M3 Floor finishes
M4 Wall finishes
M5 Ceiling finishes

Germany: DIN 276 / 1993

336 Internal wall linings (of external walls)
345 Internal linings (of internal walls)
364 Roof linings
352 Floor coverings
353 Ceiling linings

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Basic quantities (English, French and German)

1. Site area
2. Footprint area
3. Floor areas not fully enclosed
4. Gross external floor area
5. Gross internal floor area
6. Area of internal divisins
7. Area ancillary to to main function
8. Ancillary areas for services
9. Circulation area
10. Usable floor area
11. Primary Functional units
12. Secondary Functional units

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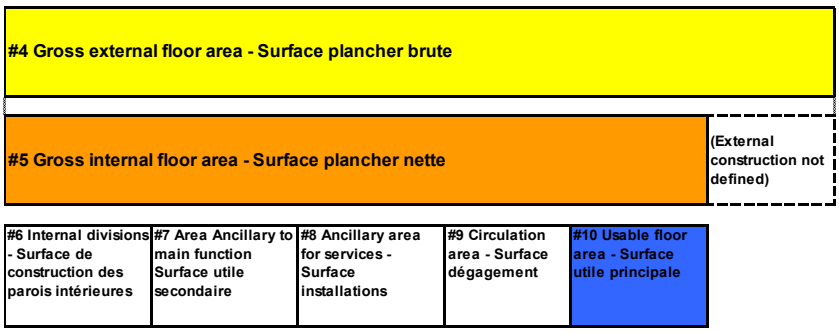
Basic quantities / Quantités de base

#01 Site area / Surface terrain

#02 Footprint area / Surface bâtie

#03 Floor area not fully enclosed - Surface plancher externe



#11 Primary functional units / 1. Unités fonctionnelles

#12 Secondary functional units / 2. Unités fonctionnelles

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CEEC Code: Definition Basic Quantities

#04 m2 Gross external floor area

Definition

The area of all floor space which is covered and enclosed to its full height, including the area of basements, measured to the outside face of outside walls and including the area of all internal walls, columns and the like measured at each floor level, excluding floor area not fully enclosed (see #03)

Germany: DIN 277 / 1987

m2 Brutto-Grundfläche BGF a

Ireland

m2 not defined

Switzerland SIA 504 416 / 2003

m2 Geschossfläche GF / Surface plancher SP

United Kingdom:

m2 RICS: Code of Measurement Practice GEA

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Examples of Standard form of cost analysis (1)

Standard form of cost analysis		**Office building with bank branch office**		**Administrative centre**	
Project reference		BKI: 1300-062		crb: 065/113	
Country of origin		Germany		Switzerland	
Location		Konstanz		Langenthal	
Currency/Price base date		€	2005	€ (1 € = 1.58 CHF)	2005
Period for costs in use (years)		-		-	
Quantity used for analysis		Gross external floor area (GEFA)		Gross external floor area (GEFA)	
Basic quantities					
#01	Site area	41'009	774%	7'971	91%
#02	Footprint area	1'346	25%	1'383	16%
#03	Floor area not fully enclosed	-	-	1'698	19%
#04	**Gross external floor area (GEFA)**	**5'301**	**100%**	**8'792**	**100%**
#05	Gross internal floor area	-	-	-	-
#06	Area of internal divisions	-	-	-	-
#07	Area ancillary to main function	1'280	24%	-	-
#08	Ancillary area for services	181	3%	-	-
#09	Circulation area	777	15%	-	-
#10	Usable floor area	2'589	49%	-	-
#11	No. of workplaces	120	-	200	-
#12	Secondary functional units	-	-	-	-

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Examples of Standard form of cost analysis (2)

Standard form of cost analysis		Office building with bank branch office		Administrative centre	
		€	€/m2 GEFA	€	€/m2 GEFA
	CONSTRUCTION COSTS	**5'906'451**	**1'114**	**13'209'121**	**1'502**
A	Preliminaries	242'794	46	397'405	45
B	Substructure	393'960	74	242'925	28
C	External superstructure/envelope	1'916'905	362	3'625'658	412
D	Internal superstructure	972'217	183	3'261'429	371
E	Internal finishings	449'957	85	732'754	83
F	Services installations	862'213	163	2'433'137	277
G	Special equipment	22'527	4	0	0
H	Furniture and fittings	1'199	0	1'217'604	138
I	Site and external works	158'710	30	294'315	33
J	Construction contingencies	0	0	0	0
K	Taxes on construction	885'968	167	1'003'893	114
	DESIGN AND INCIDENTAL COSTS	**606'669**	**114**	**2'459'781**	**280**
L + M	Design team fees	515'669	97	2'272'838	259
N	Project budget contingencies	0	0	0	0
O	Taxes on design and incidental costs	91'000	17	186'943	21

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CEEC Code of Measurement: The next steps

- **Revision January 2008 with minor corrections**
- **Gain experience with use**
- **Repeat the Lausanne excercise (Bent's building)**
- **Collection of analysis (Model Willum Cornelissen)**
- **Coordinate with other professional bodies eg. TEGoVA (European group of Valuers Associations)**
- **FIG**
- **New input and update**

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CEEC Code of Measurement

Thank you for your attention!

Please provide new input!

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