Experiences using EN 17037 in building project

Software tools and metrics

About me

- Consultant for more than 20 years
- Teaches at Chalmers University of Technology
- Member of CEN/TC 169/WG 11 Daylight that developed EN 17037
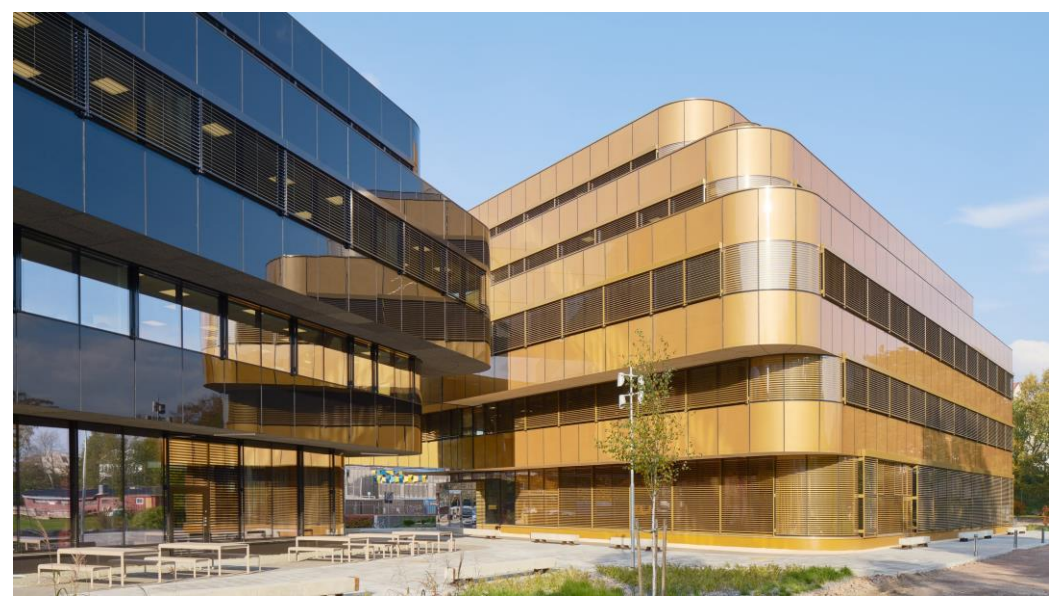- Board member of IBPSA Nordic

EN 17037

- focuses on the wellbeing of humans
- balances heating and cooling
- promotes active facades but works well for passive buildings
- works with LEED and BREEAM
- integrates well with detailed energy- and electric light analysis

- can be seen as a manual how to create great buildings

Residential building, Gothenburg

Johanneberg Science Park

Polestar new headquarters

Software tools

- You need powerful software tools to work with EN 17037
- I have reviewed available tools
- There are a number of tools that can be used
- There is always a balance between features/complexity and easy of use
- Different users needs different tools

Software tools

	EN17037 Daylight provisions		Sunlight	Glare	Visualization	Advanced simulations	Integrability	Flexibility	Reporting	User-friendliness
	Daylight Factor	Climate-based								
Radiance	5	5	5	5	3	5	2	5	1	1
DIVA	5	5	4	5	3	4	4	4	3	3
Ladybug & Honeybee	5	5	5	4	4	4	4	5	2	2
IES-VE	5	4	5	4	3	2	2	2	3	2
Relux	3	1	1	1	3	1	2	1	3	3
Daysim	5	4	3	4	1	1	2	2	2	3
VELUX Daylight Visualizer	5	1	3	1	4	4	4	2	4	5
Licaso	1	4	4	1	1	1	2	2	3	3

Software tools

	EN17037 Daylight provisions		Sunlight	Glare	Visualization	Advanced simulations	Integrability	Flexibility	Reporting	User-friendliness
	Daylight Factor	Climate-based								
Light-Stanza	5	5	5	5	3	2	4	2	3	5
DL-Light	5	4	5	1	3	2	4	3	3	3
Insight	5	1	5	1	3	1	3	4	2	3
IDA ICE	5	1	4	1	3	1	3	2	3	2
Sefaira	5	3	4	1	2	1	4	2	3	4
DIAL+	5	1	5	1	2	1	5	1	3	5
Design-builder	5	4	5	1	2	1	3	2	4	2
AGi32	5	1	1	1	2	3	3	3	2	2

Future development

- The tools needs to integrate with the building process
- The tools needs to support collaboration between architects and engineers
- Models for human behavior is lacking, especially manual shading control
- Detailed glare analysis is very time consuming
- Complex facades are still rather hard to deal with

- Development is going on in all these areas

Use EN 17037!