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WAY TO DELTABEAM

1996



Content:

Peikko today

Reasons of Precast Success

BES: concrete element standard

Development of low flange





changes
the building
industry to more
efficient




THIS IS PEIKKO IN 2019



Sales globally

225 MEUR


**Peikko
spirit**


Technical
knowhow

Own personnel in



34 locations

Committed personnel

1,800

Certified in-house
manufacturing in

8 countries

Family-owned since



1965

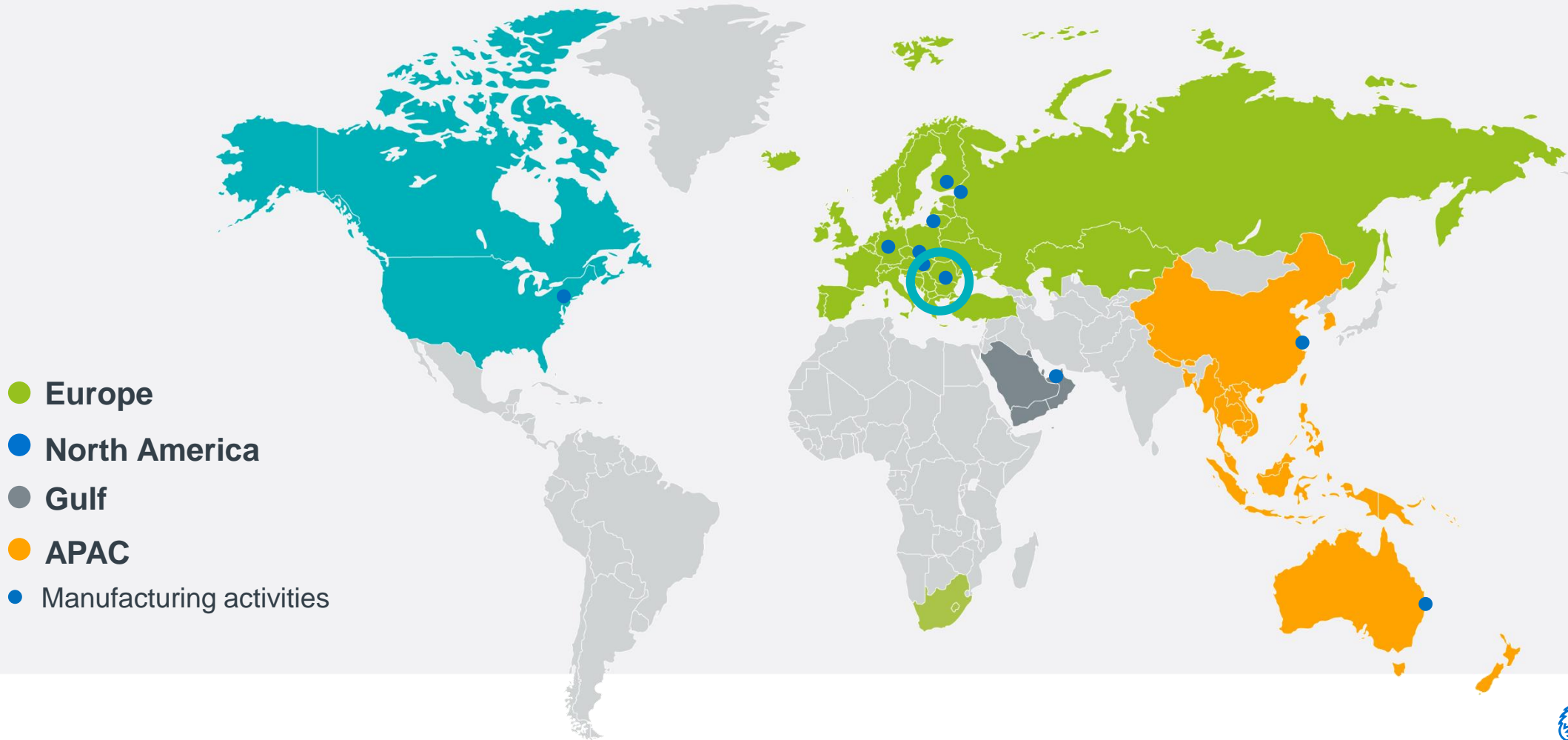
Roots in

**customer-focused
innovation**



**Success
together**

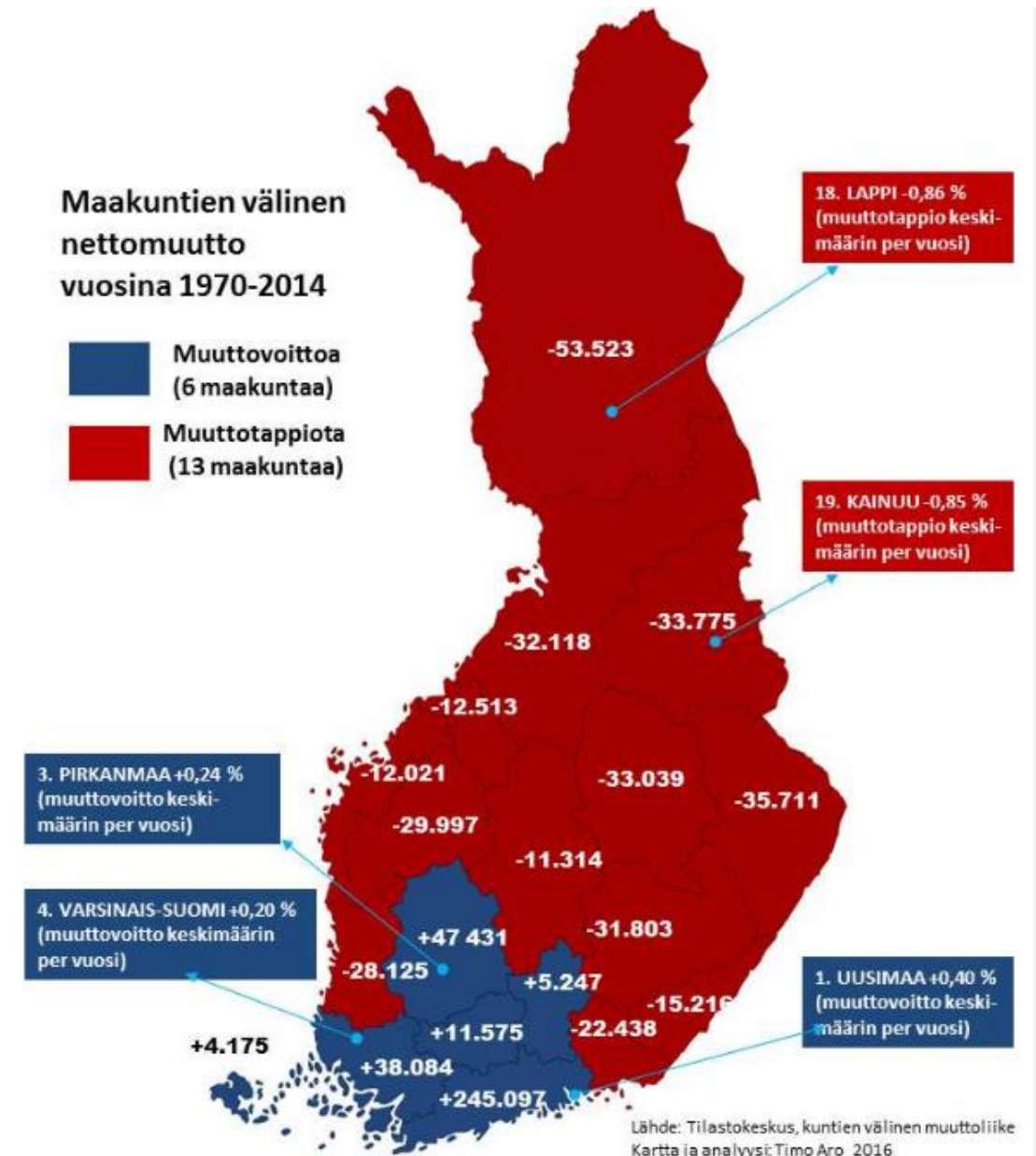
WHERE WE ARE ?



REASONS FOR PRECAST SUCCESS



People moving south need for fast residential construction

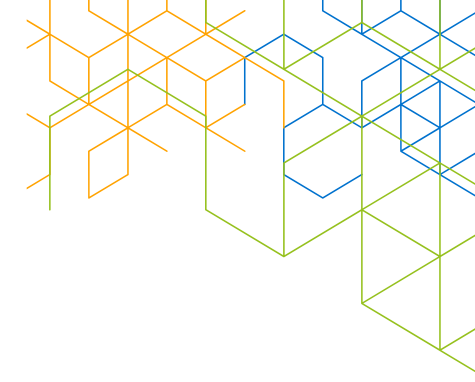


1960: PRECAST HOMES



BES system for residential standard

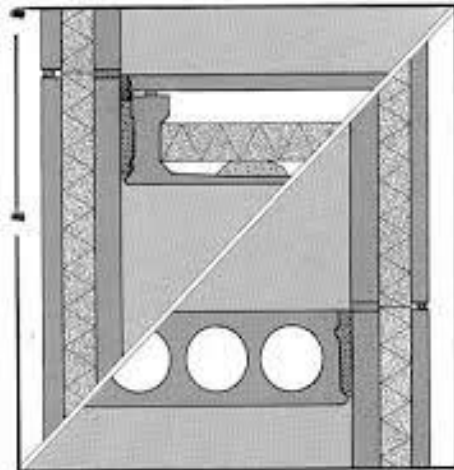
Based on long span hollow core slabs



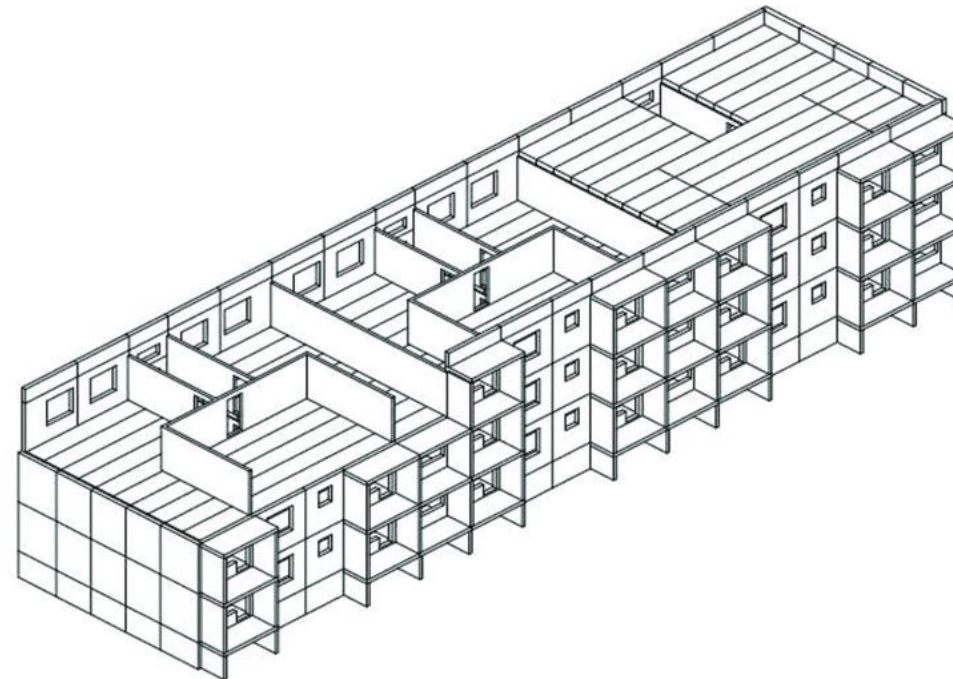
One Standard- Efficiency



BES-järjestelmän rakenteita
koskeva suositus 1979



Mass Production – long series



Affordable Housing



2019: VARIATIONS, STILL BES

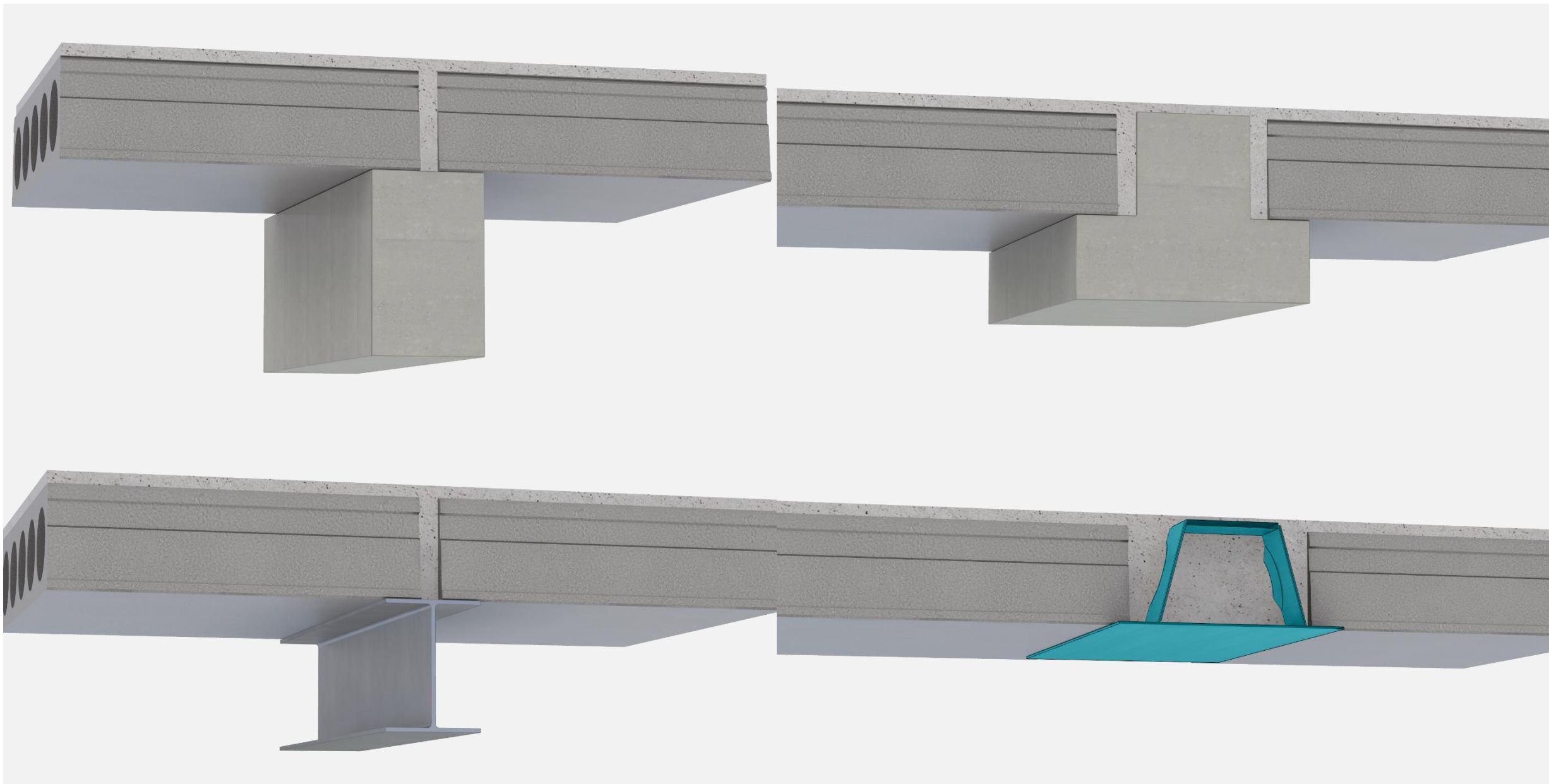


1970: BES PRECAST FRAMES



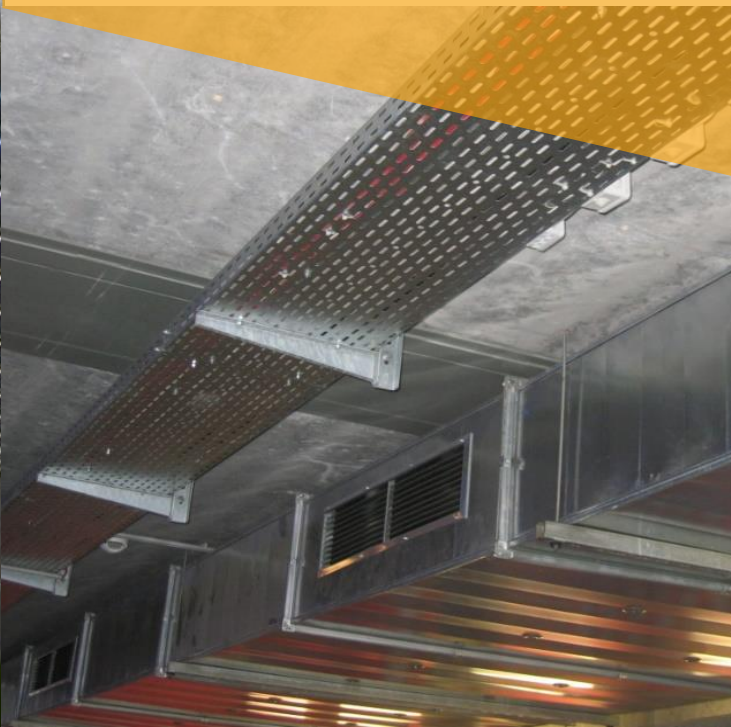
LOW FLANGE BEAMS





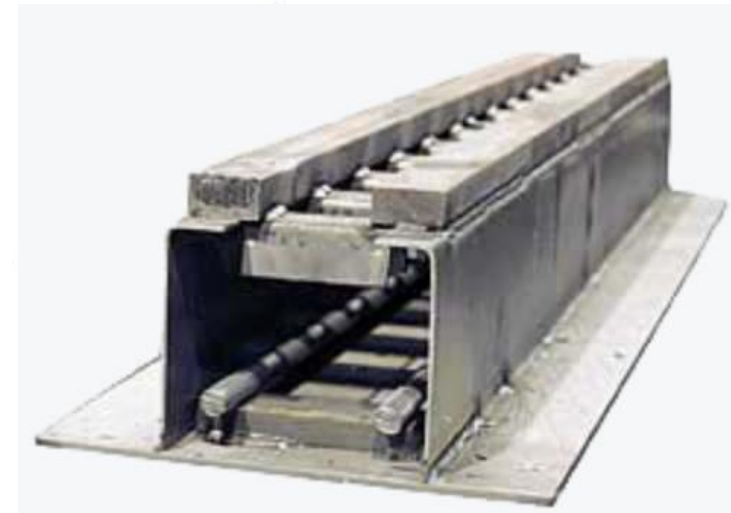
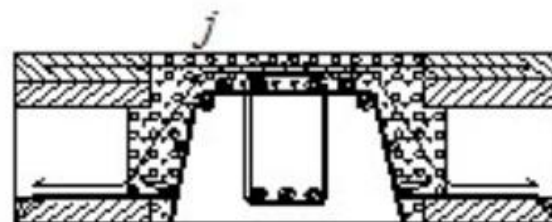
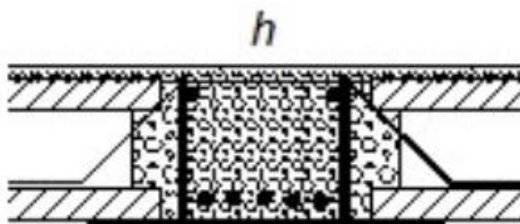
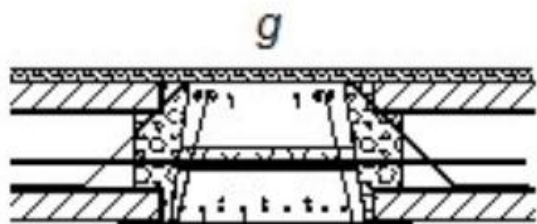
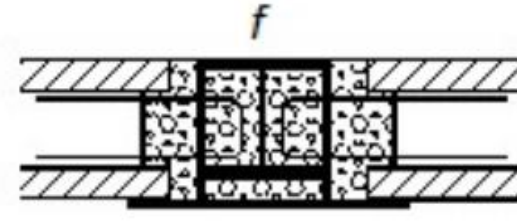
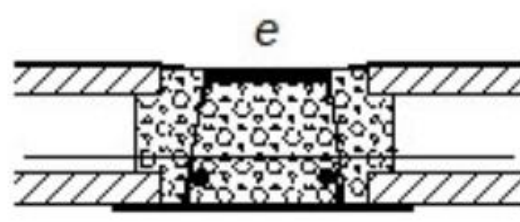
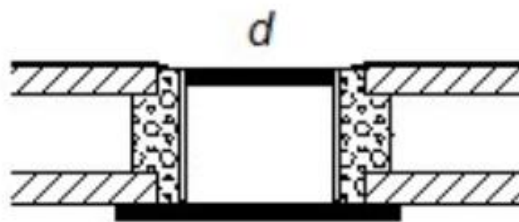
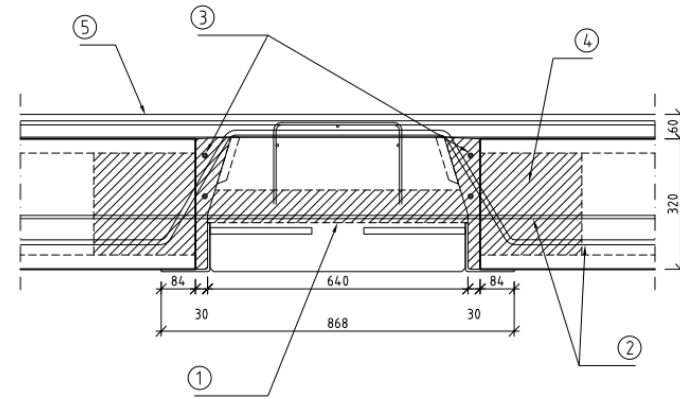
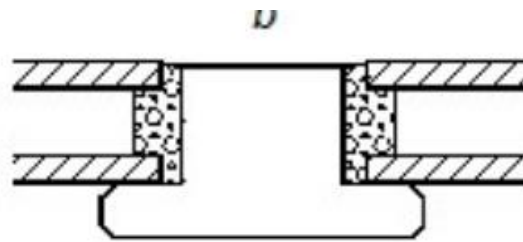
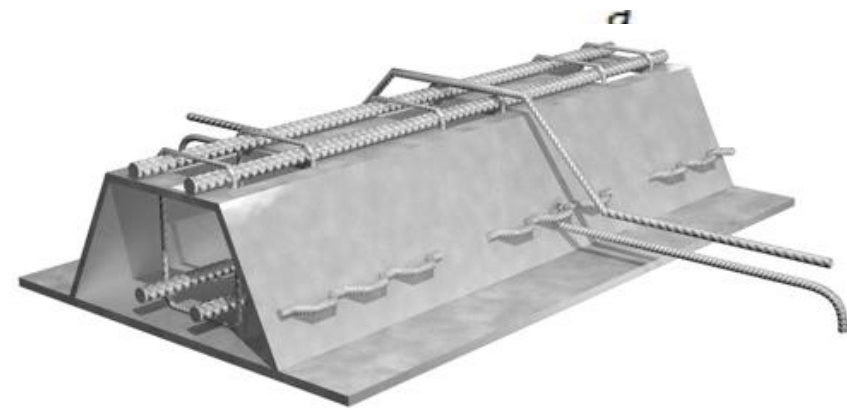


**Technical
installations,
easily**



1980: STEEL-CONCRETE HYBRID BEAMS





1989 DELTABEAM®



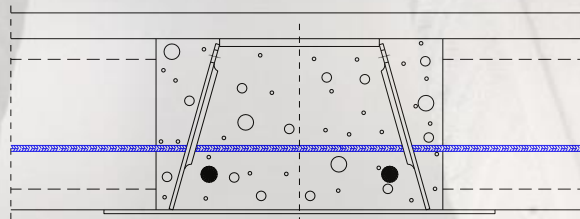
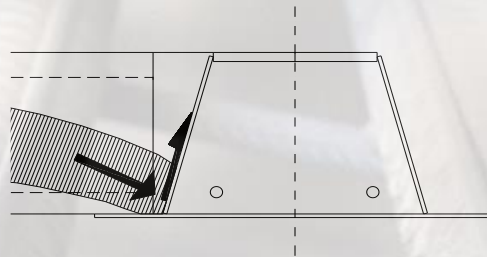
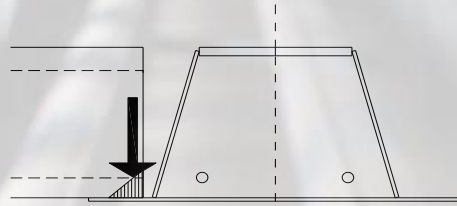
Customer Requirements favored DELTABEAM®



Requirements from the customers	Hybrid beams	Steel beams	DELTABEAM®
Lightweight in transport and erection			
Concreting together with hollow cores			
Structural fire resistance			
8 weeks delivery time (data to delivery)			
Single span / Continuous			
Technical Support			
Design Tools for 3D environment			
Connection details (continuous, secondary)			

How does it work ?

- **Erection stage**
 - **As Steel Beam**
- **Final stage**
 - **As Concrete-Steel Composite Beam**
- **Fire**
 - **As Concrete Beam**



Curved architecture

Enables competing with cast-in-situ





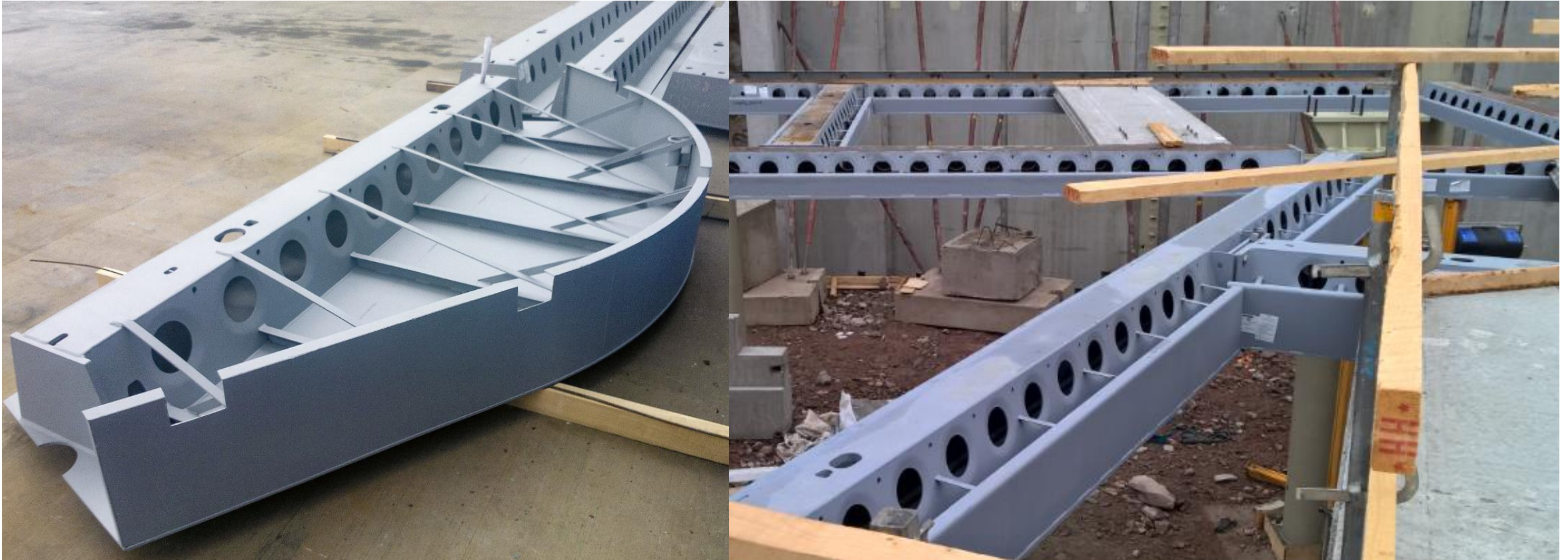
Create
demanding
shapes,
easily



Creating Precast slim floors as easy as cast-in-situ



Transform cast-in-situ sectors with DELTABEAM® to PRECAST

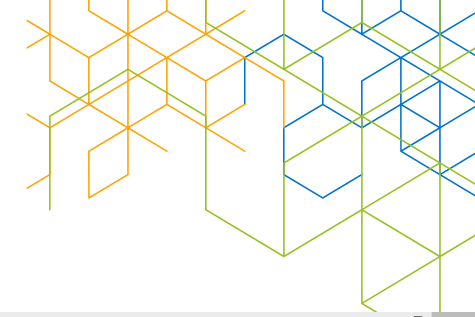


Long Span Beams for everyone



Enables smaller precasters to offer projects which requires some pre-stressed long-span beams

DELTABEAM[®] is designed to fit your lay out



SE00124_P104_revA.sdf - Peikko Designer 1.1.0.121 - Miikka Toivola, miikka.toivola@peikko.com

Home Insert Modify Deltabeam View

Show grid Show grid labels

Size X: 60000 mm Spacing X: 6000 mm Label size: 500

Size Y: 60000 mm Spacing Y: 6000 mm

UCS Settings UCS Tools

Grid line intersection Grid line midpoints Any point on grid line

Object edge ends Object edge midpoint Object node

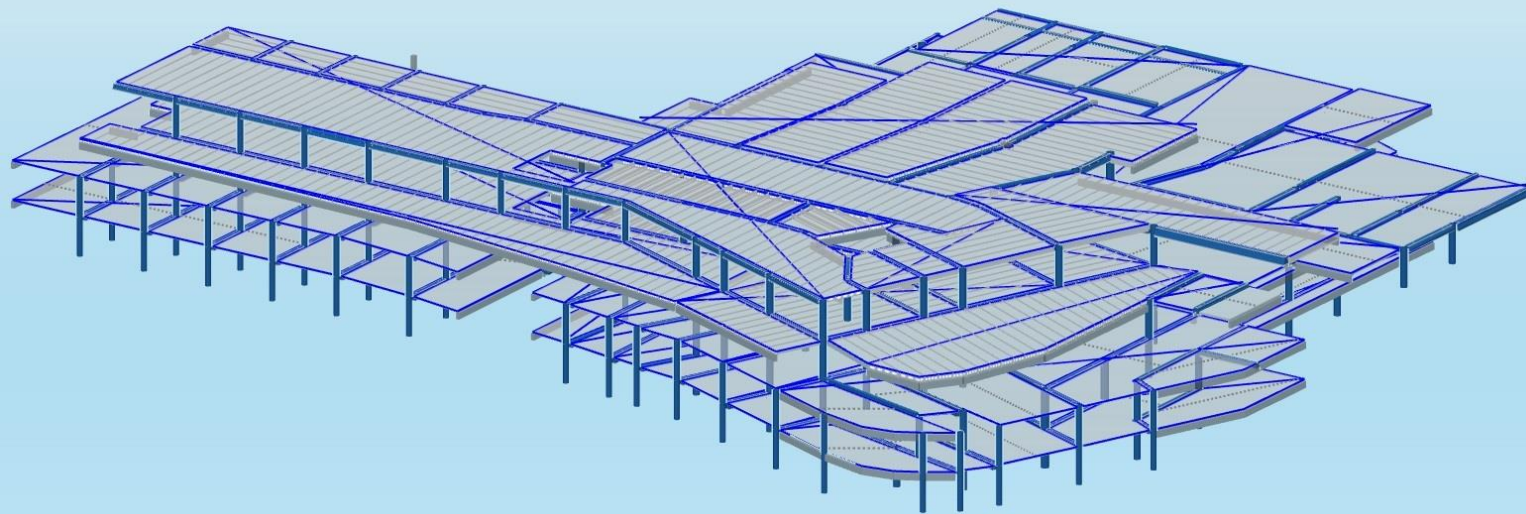
Any point on object edge Any point on object surface Imported graphics

Orthographic Full details Enable low details selection

Point Input 3D representation

DB - Building\P104 floor X Calculation Results Building\P104 floor X

LAUTTASAAREN OSTOSKESKUS 25.4.2014

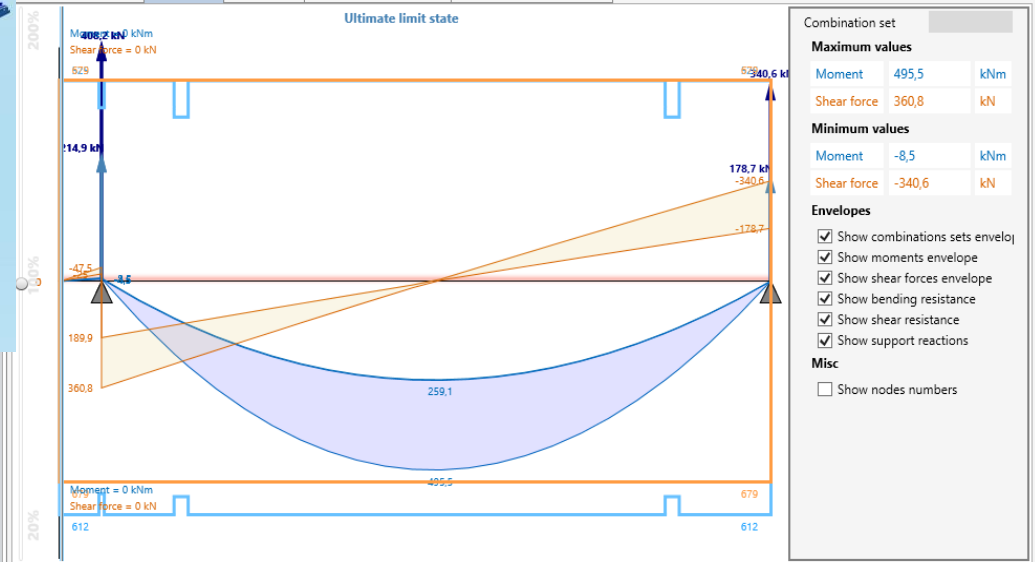


Deltabeam	Parameters			Ultimate limit state								Stresses (MPa)											
	Name	Thickness	fire rebar	Precamber	Stage 1 capacities (%)		Stage 2&3 capacities (%)		fire situation capacities (%)		idental situati capacities (%)		Flanges		Concrete		Ledges						
					M _{el,Rid}	V _{el,Rid}	M _{epL,Rid}	V _{pl,Rid}	M _{fr,Rid}	V _{fr,Rid}	M _{acc,Rid}	V _{acc,Rid}	σ _{x,top}	σ _{x,bot}	σ _{c,infL}	σ _{c,top}	Left _{rel}	Right _{rel}	Left _{com}	Right _{com}			
DB-P4-01 (D26-300)	12	6	5	0	32	0	0	29,9	54,6	33,2	31,8	70,8	45,6	0,0	0,0	-87,0	81,0	-1,2	-1,6	167,2	59,0	178,7	90,1
DB-P4-02 (D26-300)	12	6	5	0	32	0	0	10,9	27,5	10,7	16,1	22,9	17,8	0,0	0,0	-31,0	27,0	-0,6	-0,7	134,9	0,0	128,9	0,0
DB-P4-03 (D26-500)	20	12	8	2	32	0	10	42,6	74,6	58,8	38,8	75,7	69,2	0,0	0,0	-145,0	141,0	-2,6	-3,6	127,7	130,5	175,4	177,7
DB-P4-04 (D26-500)	30	20	8	3	32	0	40	57,3	75,2	80,6	44,5	73,2	35,3	0,0	0,0	-197,0	191,0	-3,3	-5,0	132,8	133,1	203,7	203,7
DB-P4-05 (D26-500)	15	8	6	0	32	0	10	55,9	120,4	80,9	53,1	200,6	167,0	0,0	0,0	-182,0	212,0	-3,0	-4,3	173,2	176,8	252,8	255,7
DB-P4-06 (D26-500)	30	20	8	4	32	0	40	62,0	80,0	86,6	46,8	93,6	36,3	0,0	0,0	-200,0	211,0	-3,3	-5,1	145,1	144,9	223,9	223,9
DB-P4-07 (D26-400)	20	12	6	4	32	0	20	54,5	93,7	73,9	50,3	57,1	41,5	0,0	0,0	-179,0	147,0	-3,0	-3,9	137,0	133,3	183,5	180,7

Hide Details

Design Model Details ULS Stage 1 ULS Stage 2&3 SLS ULS -Fire

Load Combinations Diagrams EQU Check HCS Shear Check Shear Connection Check



ONE SOLUTION – SEVERAL ADVANTAGES



Additional

room height



Less need for

columns



More architectural

freedom



Lower heating and cooling

costs



Space-saving

installation



Fast and safe to

erect



Savings

In time, space
and money for all
stakeholders

Building excellence since 1989



Over

15 000

successful projects



Used in over

35

countries



Local service in more than

30

countries

A faster, safer, and more efficient way to design and build.

THANK YOU