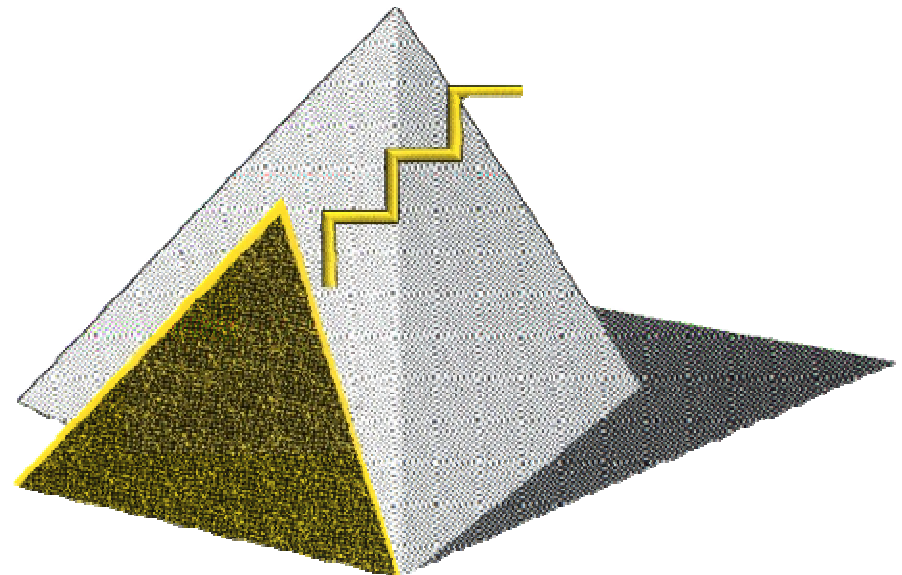


GERMAN'S EXPERIENCE IN DEVELOPING TECHNICAL PROCESSES FOR FURNITURE MANUFACTURING

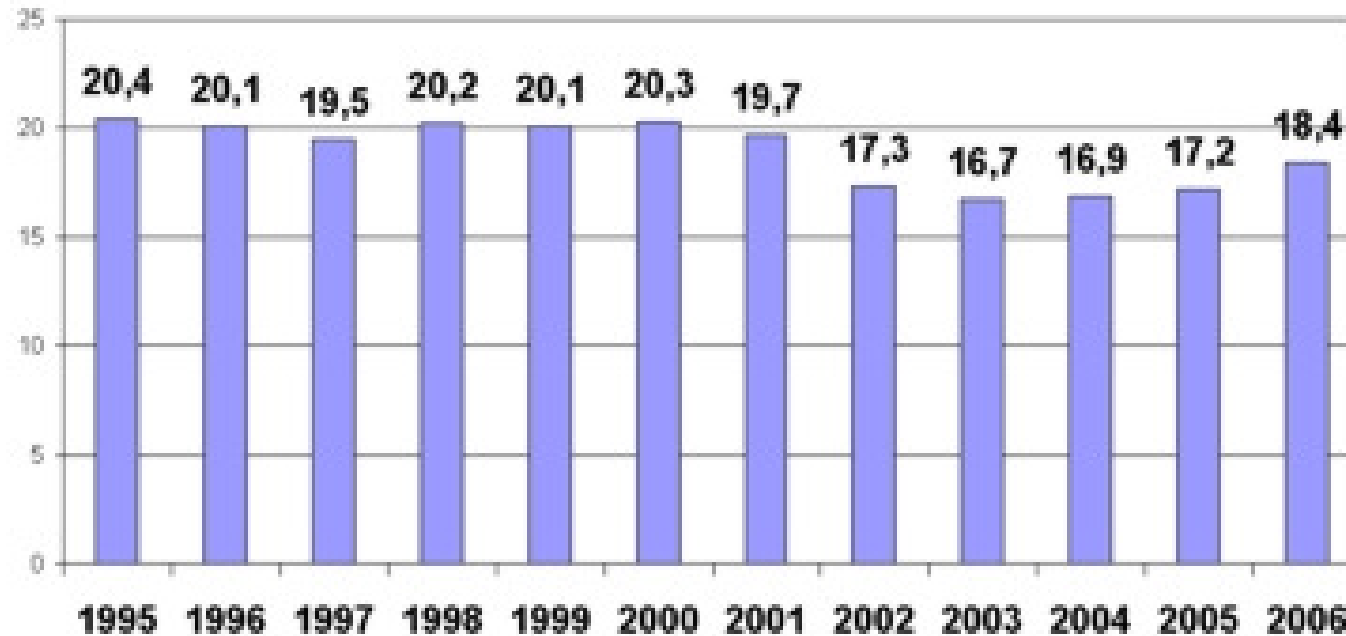
Lecturer:
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Hauptstr. 64
86757 Wallerstein
tel: 09081-275000
fax 09081- 2750016
e-mail info@Gerhartz-partner.de



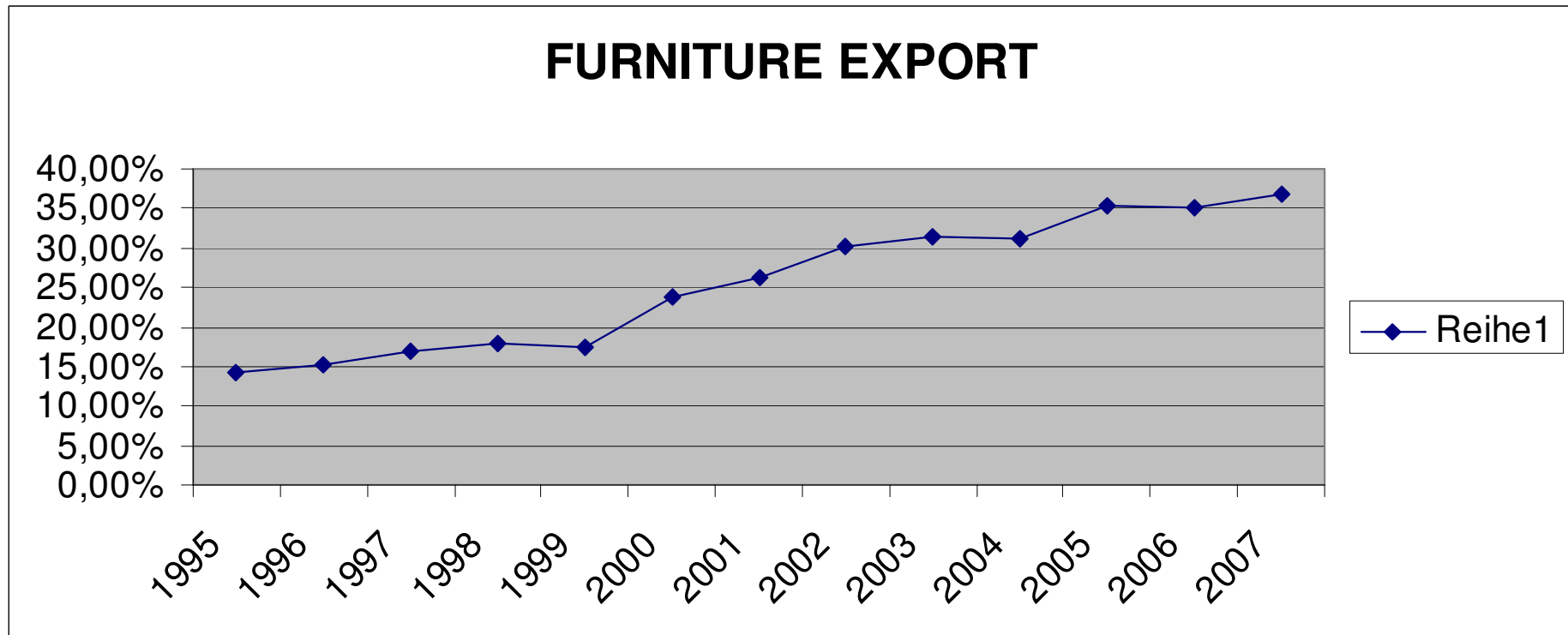
TURNOVER OF THE GERMAN FURNITURE INDUSTRIES FROM 1995-2006

Umsatz der deutschen Möbelindustrie 1995 - 2006
in Mrd. €



Source: hdh

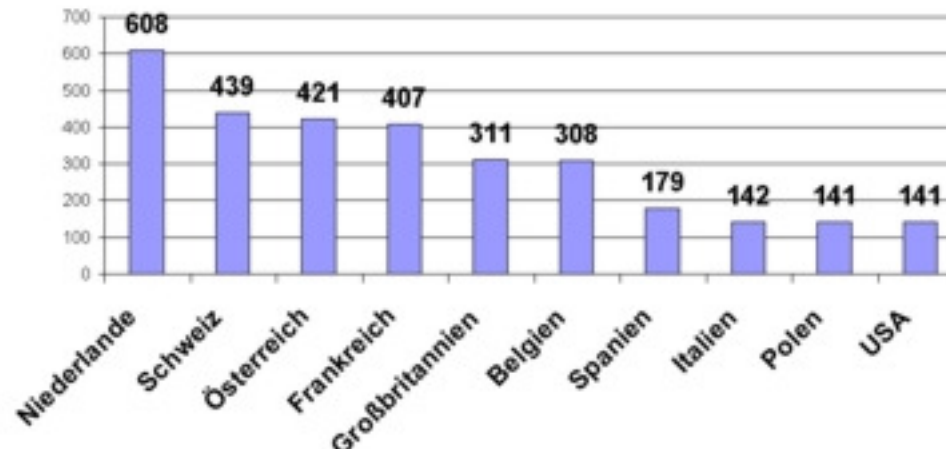
FURNITURE EXPORT FROM FROM 1995 TO 2007



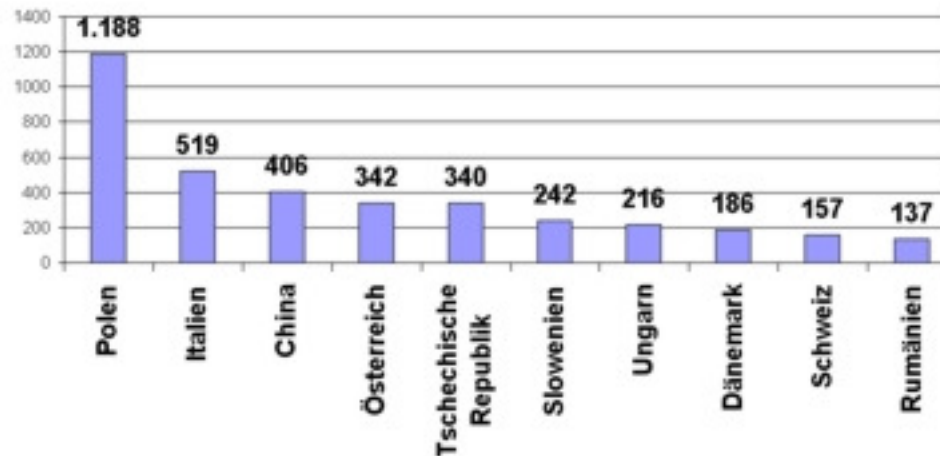
Source hdh

IMPORTS AND EXPORTS OF FURNITURE

Deutsche Möbelexporte 1.-3. Quartal 2006 in Mio. €



Deutsche Möbelimporte 1.-3. Quartal 2006 in Mio. €



Source: hdh

THE DEVELOPMENT OF THE TECHNICAL PROCESSES IS MOSTLY DRIVEN BY CUSTOMER NEEDS AND CUSTOMER BEHAVIOR

THE CLIENT WANT'S INDIVIDUAL SOLUTIONS

THE CLIENT WANT'S TO SOLVE A PROBLEM

THE CLIENT WANT'S HIS SOLUTION OUT OF ONE HAND

THE CLIENT WANT'S HIS SOLUTION TO THE BEST PRICE

AN INCREASING TRANSMISSION SPEED AND INTERACTIV INTERNET 2.0
DRIVE THE MORE AND MORE THE DEVELOPMENT AROUND
FURNITURE, DESIGNED TO CUSTOMER NEEDS

THE RANGE OF MATERIAL IS RAPIDLY INCREASING

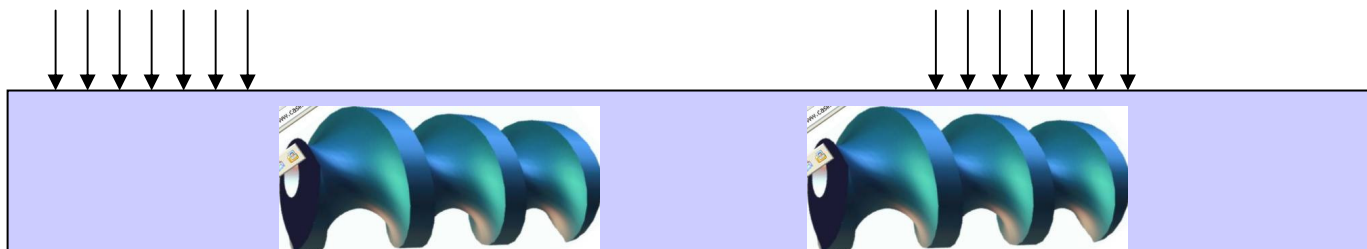
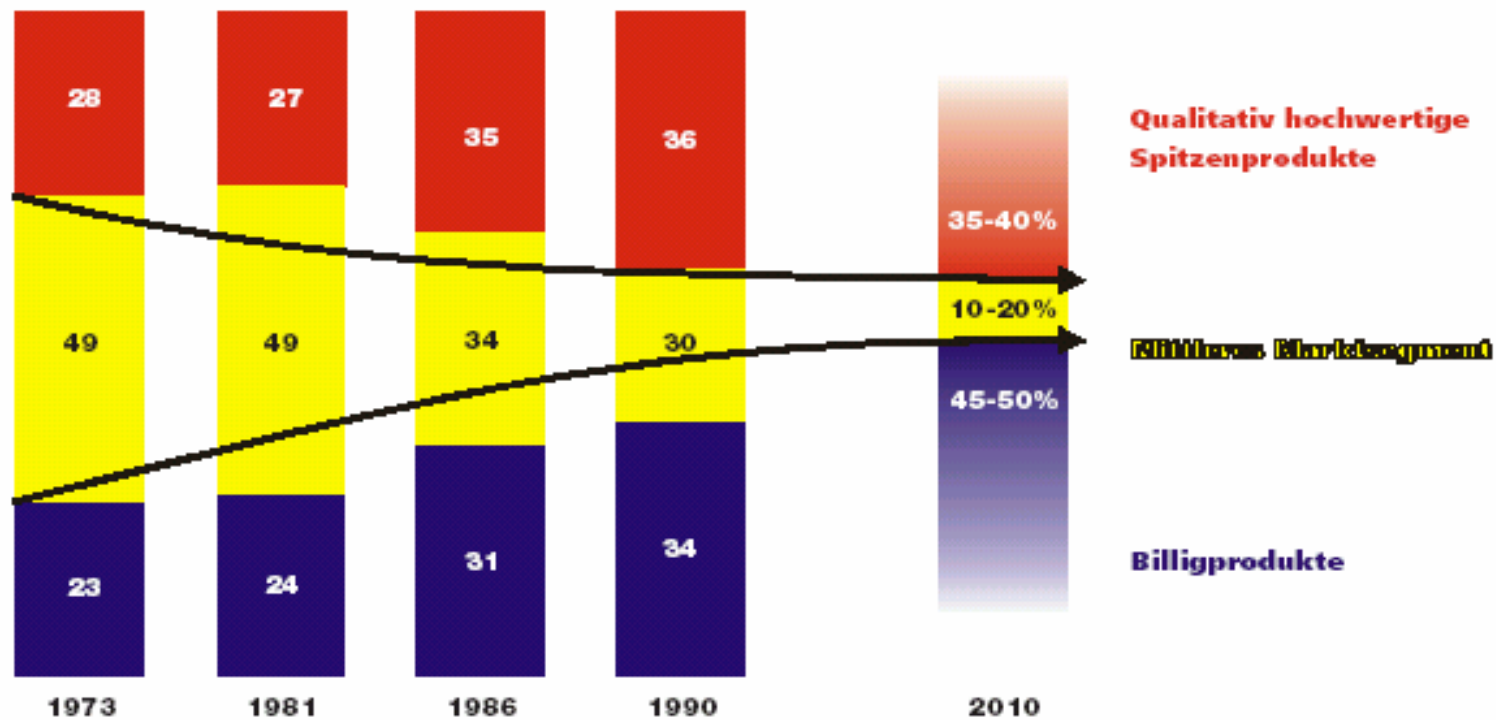
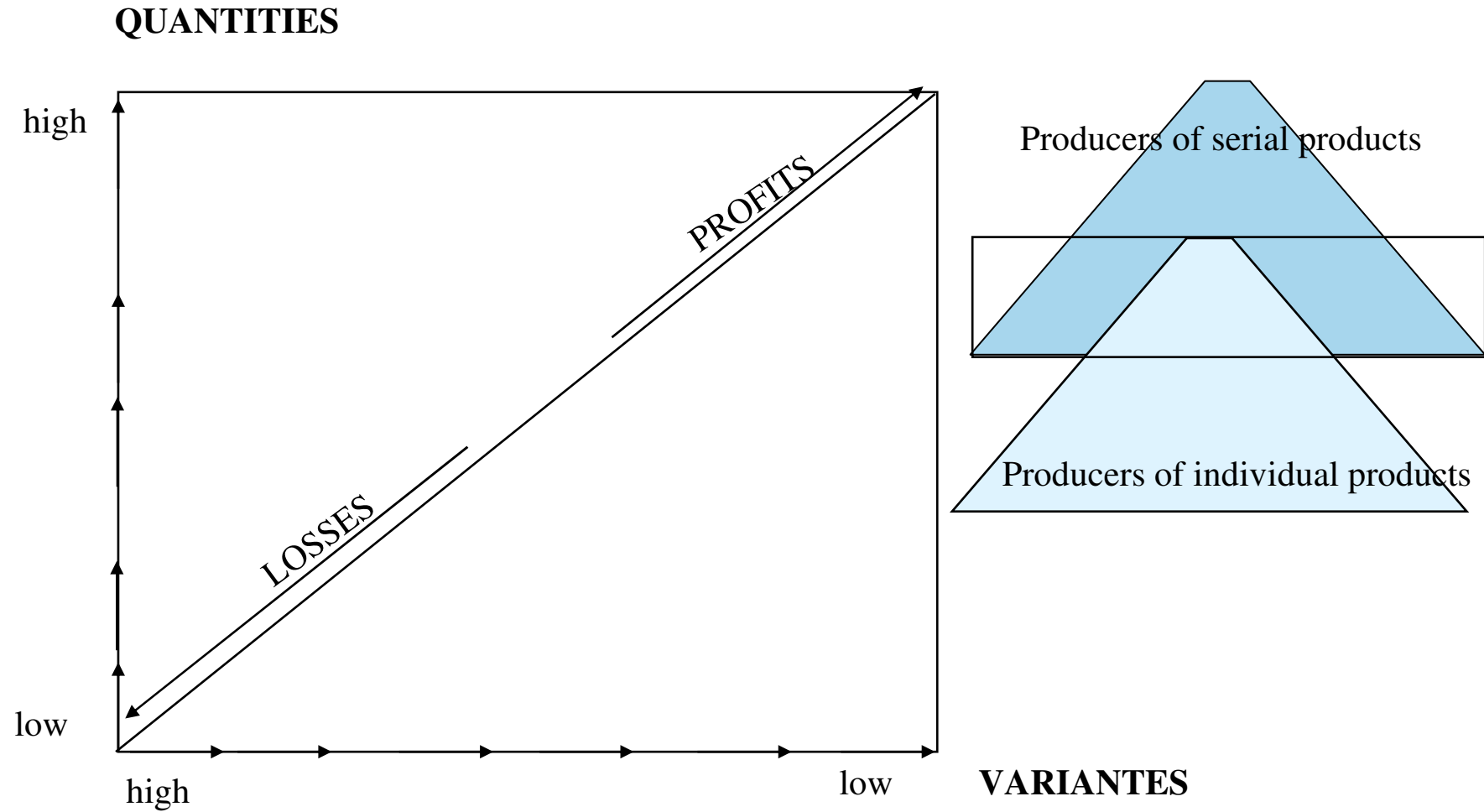


Abbildung 4: Die Polarisierung der Märkte



Quelle: B.A.T. Freizeit-Forschungsinstitut, BBE-Prognose / BBE-Unternehmensberatung GmbH "Der Handel im 21. Jahrhundert"
Grafik: BBE-Köln

INCREASING INDIVIDUALISATION WITH THE EFFECT OF DROPPING LOT SIZES AND AN INCREASING RANGE OF VARIANTES



THE TECHNOLOGIE IS DIVDING IN TWO GROUPS

MASS FURNITURE

From high batch sizes to low batch sizes

In series: dropping setup times
operation technologies more compressed
solutions to customer needs

CUSTOMIZED FURNITURE

From high to low handling times

From high operation times to low operation times

Custom designed: decreasing handling times
compression of operations
decreasing operation times

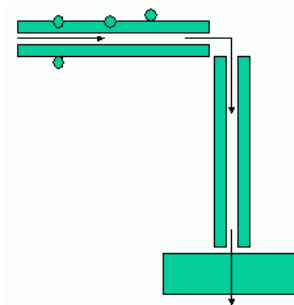
DEVELOPMENT OF INDUSTRIAL TECHNOLOGIE PROCESSES

INDUSTRIAL FURNITURE PRODUCTION

1970 DEP sizing and edgebanding

1980 DEP sizing, edgebanding and drilling

1995 e-driven production lines with stronly reduced setup times

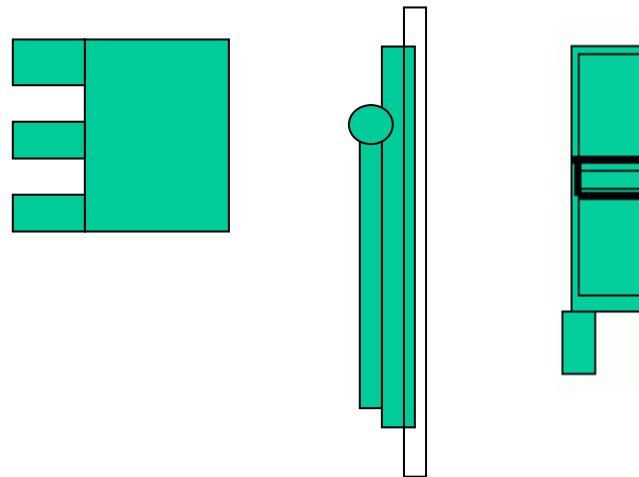


DEVELOPMENT OF INDIVIDUAL PROCESSING TECHNOLOGIES

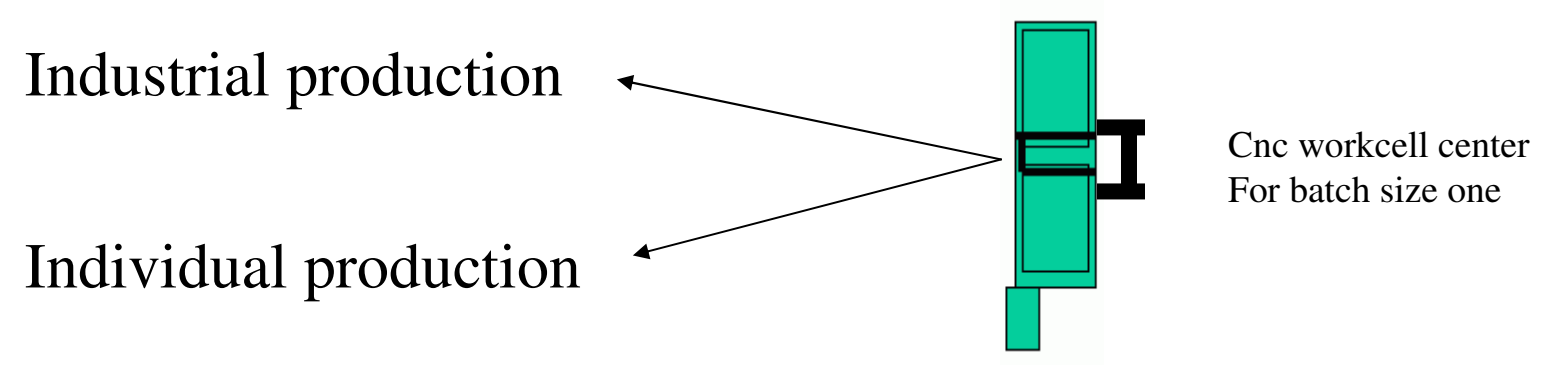
1970 A lot of little machines for every requirement a machine

1980 the machines get more specialised

1990 Working with 3 machines



BATCH SIZE ONE PRODUCTION



FROM VARIANTS TO PARAMETER DRIVEN CONSTRUCTION RULES

VARIANTS

The idea:

To create with a few of pieces
a lot of variants high lot sizes

Low set up times



Two step production
Preconfigured pieces go on stock

VARIABLES

The idea

To create repeatable work piece
which are driven by
construction rules



One step production
Without stock
Down to batch size one
Parameter driven construction

Parameters can drive
measures,
Materials,
all technologieinformations



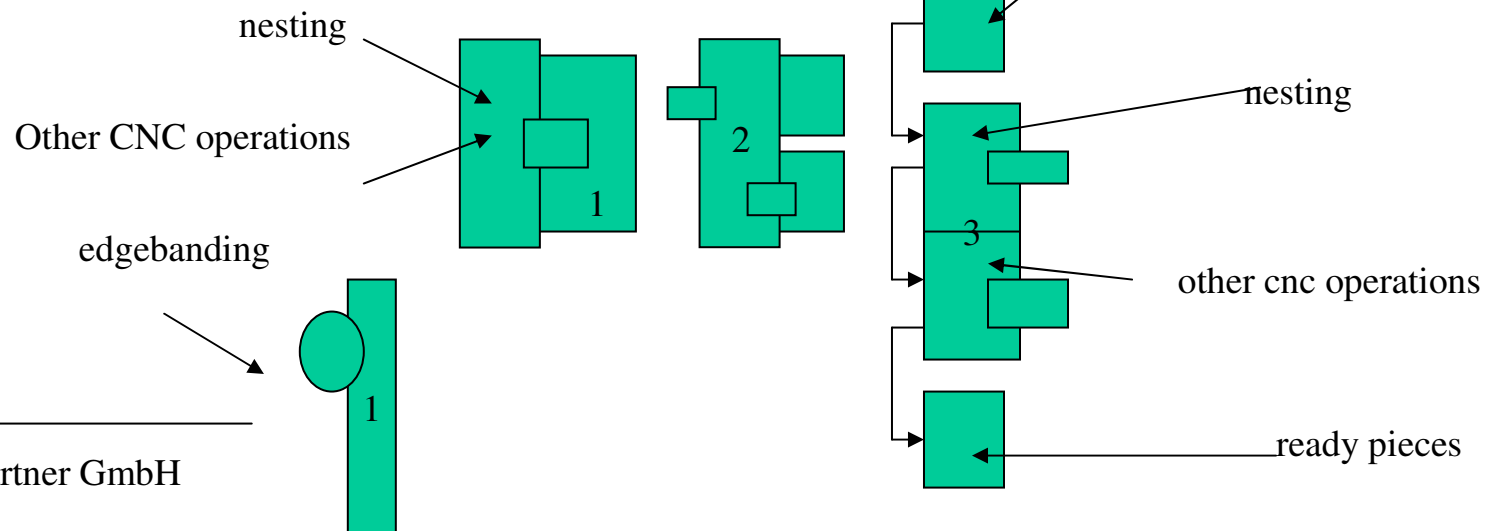
ORGANISATION

To 70 % the batch size one production follows the individual production rules with it`s tools and it`s workflow

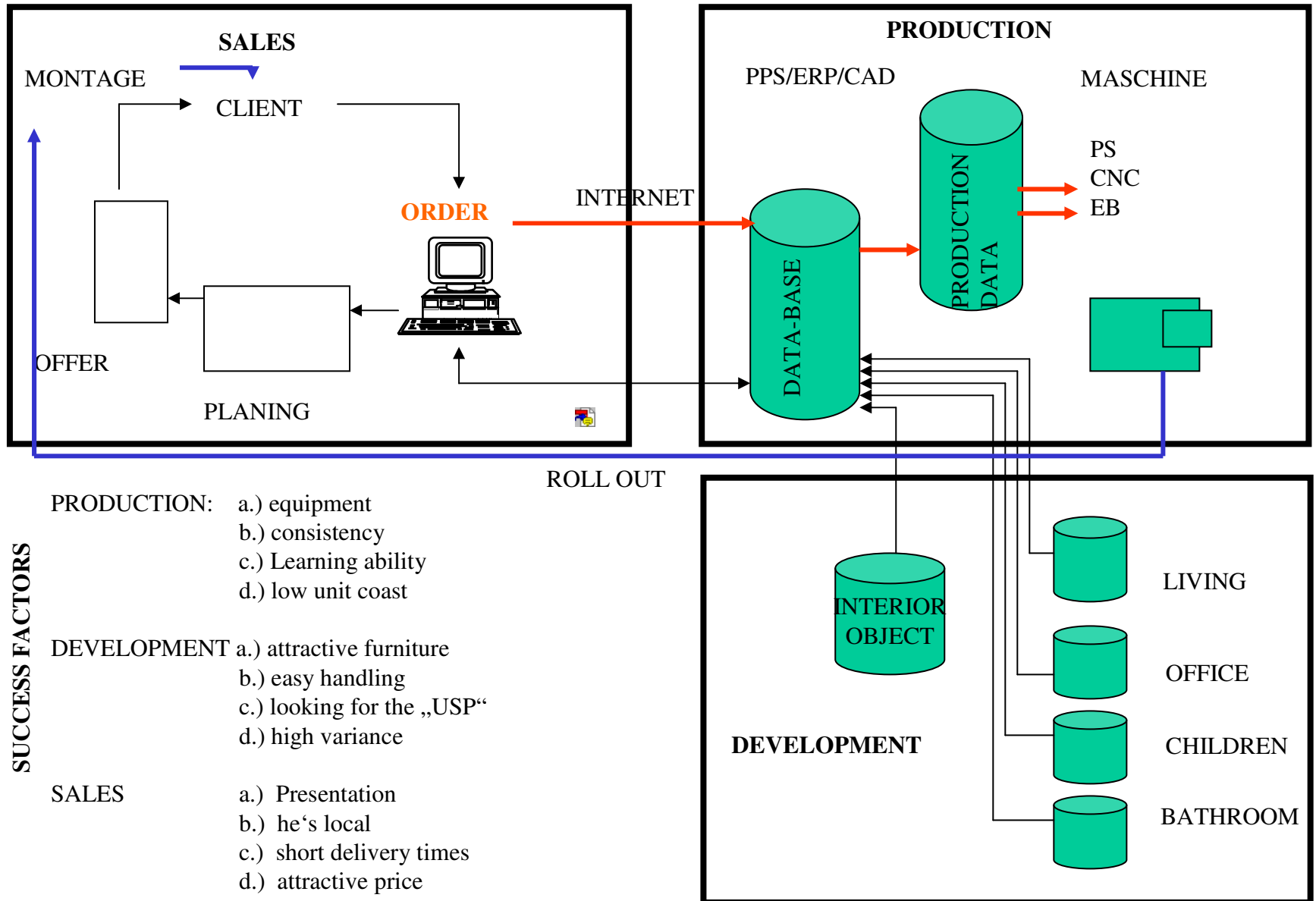
TECHNOLOGICAL PROCESSES ARE OFFERED IN BUILDING SETS ALIGNED TO CUSTOMER NEEDS

	PS	EB	DR	BIMA	TIEMPO	ALL IN ONE
sizing	x			x		x
edgebanding		x			x	x
Drilling +routing			x	x	x	x

raw material panels
2600*2000



MINIFACTORY FOR MASS CUSTOMIZED FURNITURE



CUSTOMER NEEDS FORCES TO CHANGE TECHNOLOGICAL PROCESSES

The change of customer needs and customer behavior are the biggest driver that sets the goals and makes the pressure to change the technological processes.

This certainly will be one of the biggest deficiencies in the next years..