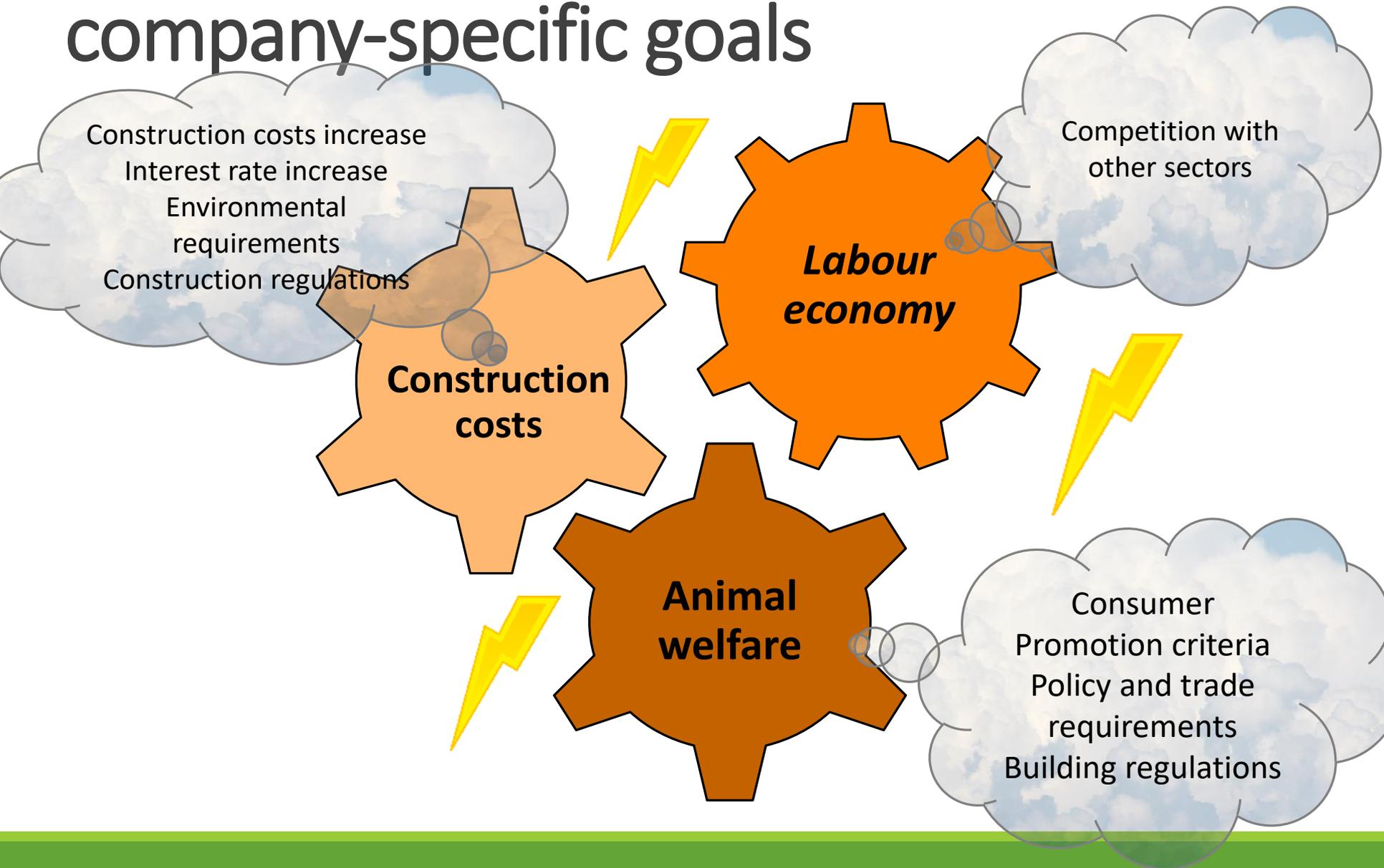


Contemporary stable construction: Costs and benefits of safety devices

A balancing act between safety, animal welfare, working time requirements and profitability

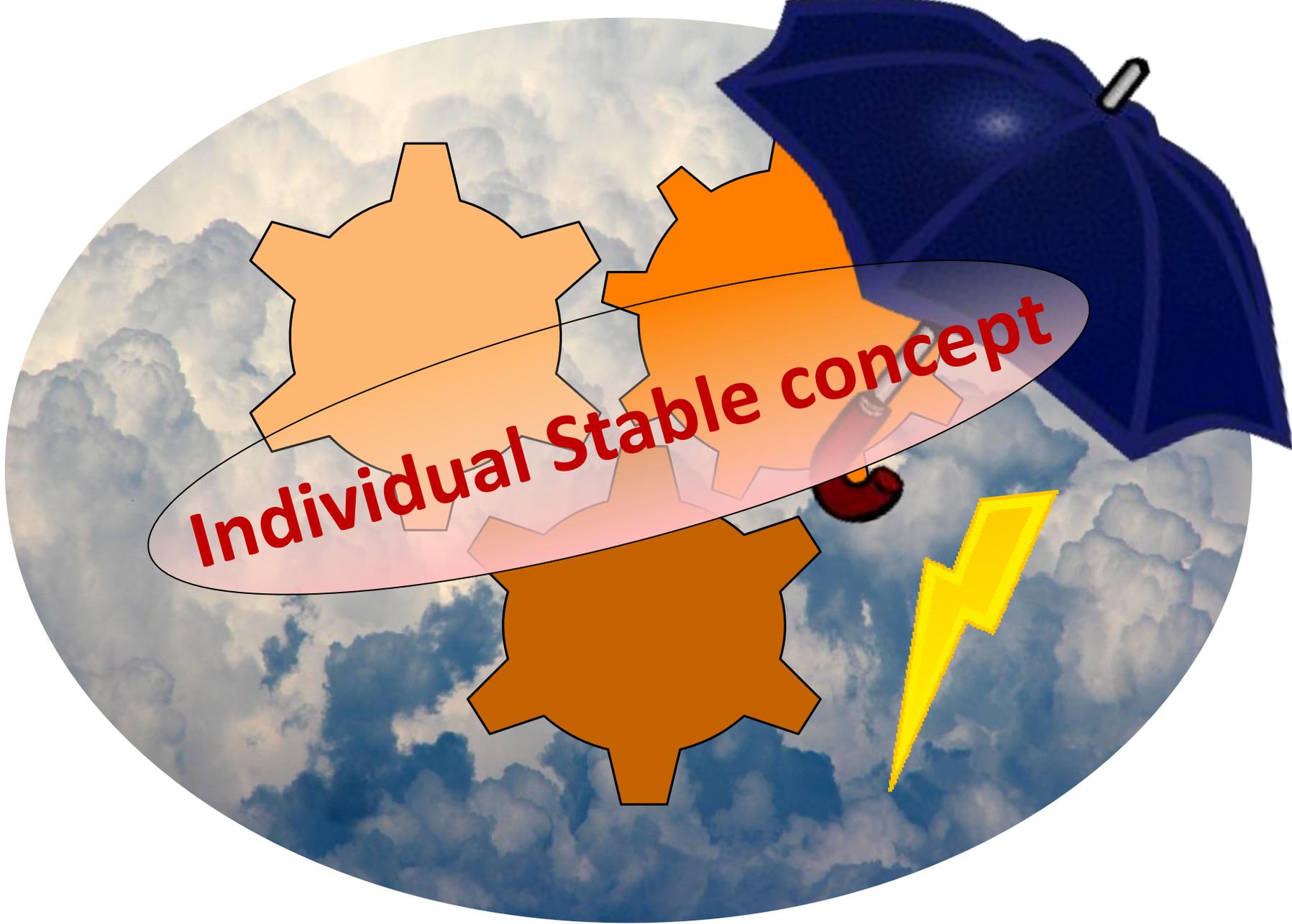
Dipl.Ing.agr Ute Langhuth

Resources and framework conditions - company-specific goals



Climate protection

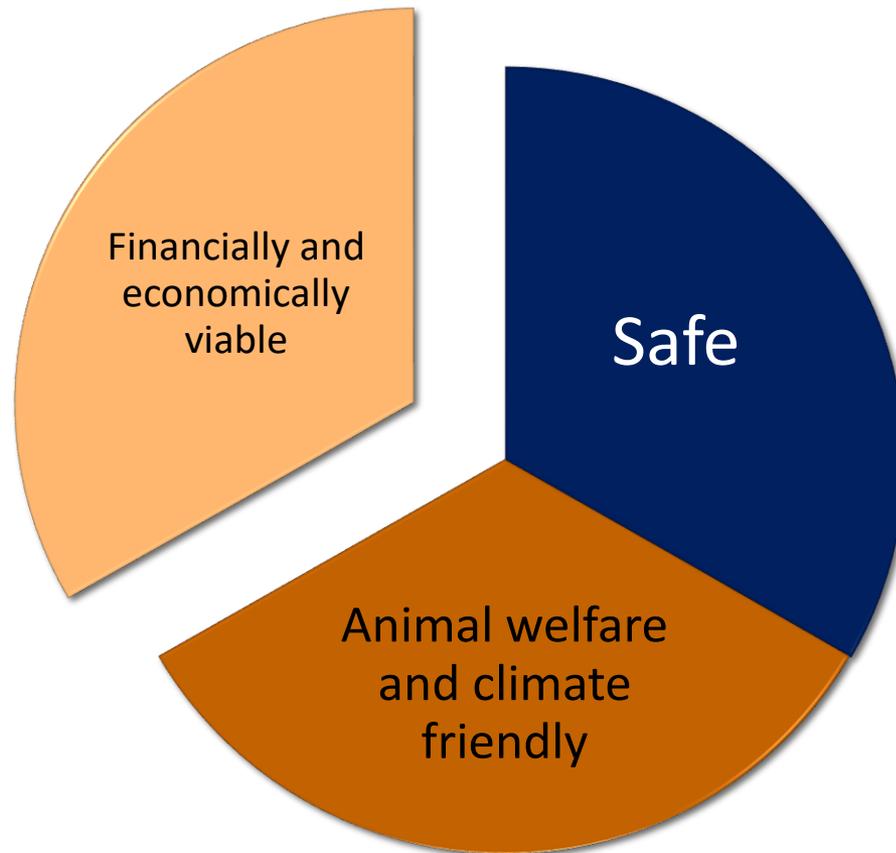




Individual Stable concept

From theory to practice

Individual Stable Concept



Current construction costs in Hessen

New building outside

incl. access

incl. silo

incl. slurry tank

incl. AMS (milking robot)

incl. automatic feeding (with own hall)

incl. ancillary building costs (architect, surveyor, surveying etc.)

Question

How much
does a cow
place cost ?

Current construction costs in Hessen

New building outside

incl. access

incl. silo

incl. slurry tank

incl. AMS (milking robot)

incl. automatic feeding (with own hall)

incl. ancillary building costs (architect, surveyor, surveying etc.)

20,000 euros per cow place*

***gross and completely turnkey for approx. 200 cows**

Question

How high are the costs for the stable equipment pro rata of the costs per cow place (20,000€)?

Share of the **stable equipment** (feeding fences, cubicles, partitions) in the total construction costs:

2,5 %



Even subordinate items, such as ancillary building costs (surveyor, surveyor, architect, etc.), are now twice as high as the costs for the stable equipment!

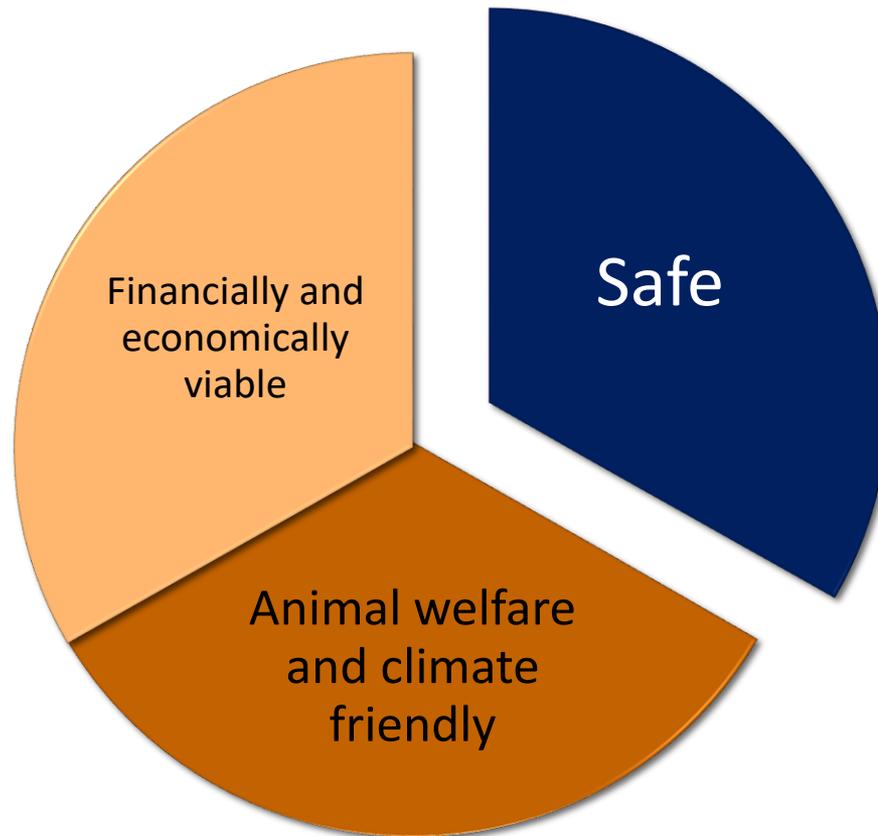
Thesis: cutting corners on the space and function programme simply because the interior construction is later than the shell construction is the completely wrong approach!

Thesis: relying only! on an architect to build a stable is no longer in keeping with the times, as the architect is a construction expert, but has no idea of the daily processes and needs.

Space and functional programme

- Feeding area
- Lying area
- Bedding/Mucking-out
- Runyard

Individual Stable Concept



Space and functional programme

- **Feeding area**
- Lying area
- Bedding/Mucking-out
- Runyard



Swedish grid

Single animal restraint

Escape routes for humans
and animals

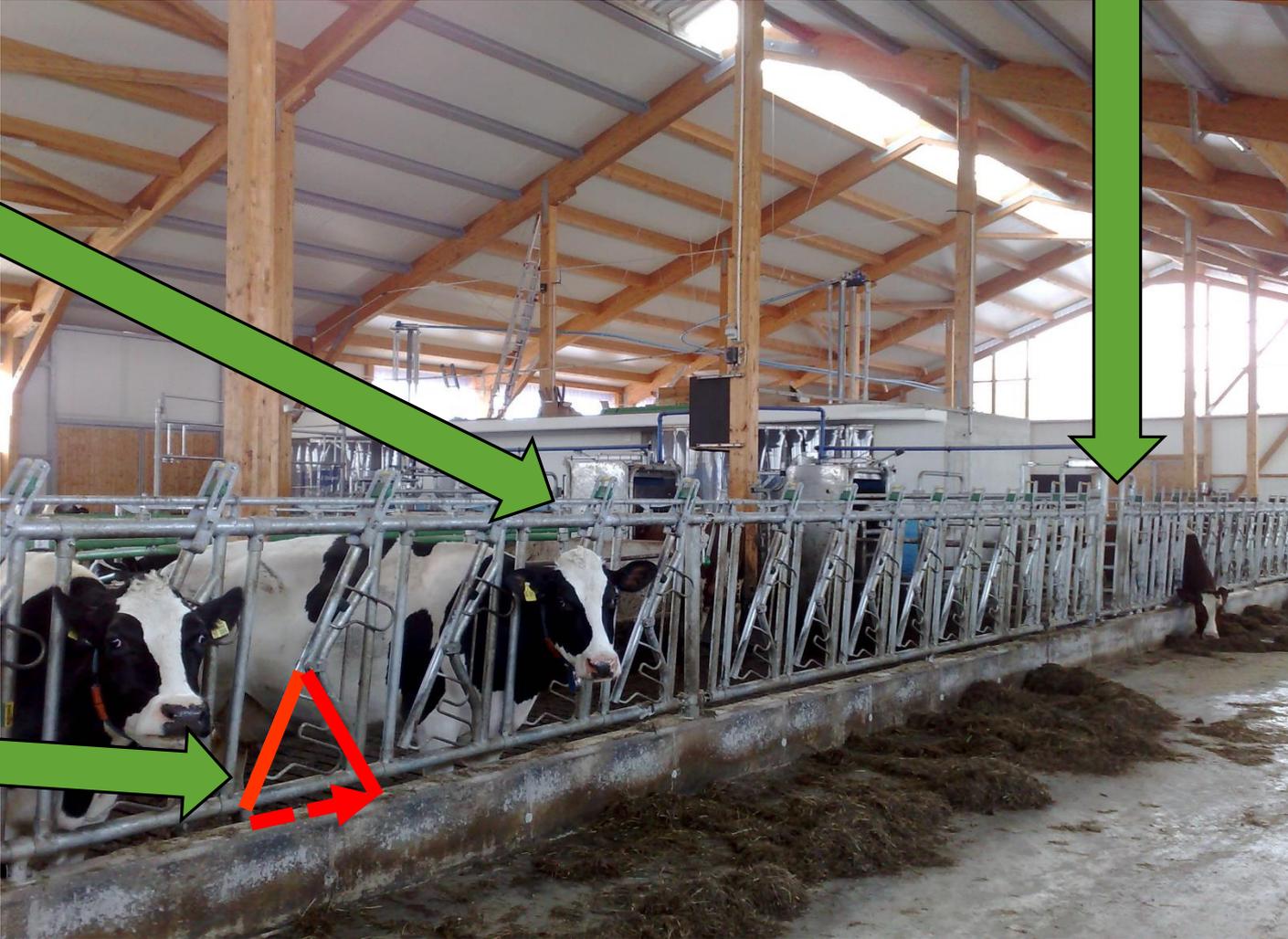


Safety feed grid

Problem: Few opportunities for people to escape

Problem: Impairment during stress/Escape

Problem: Manual assistance for fallen animals nevertheless necessary



Automatic feeding systems



New challenges for humans and animals

Alternative :

Neckpipe



BUT! Always in combination with treatment stand

Treatment stand

in combination with Neckpipe

+ Cost-effective as
Drive-through stand

+ Animals do not associate
treatment with milking

*Note: treatments are not allowed
in the milking robot anyway.*

+ Farmer can be more height -
difference may make it easier to
carry out inseminations



Treatment stand

Installation of milking robot in existing milking stand in combination with treatment stand

Farmer stands protected in the pit

Please note: Collisions with the milking robot arm must be excluded.



Space and functional programme

- Feeding area
- **Lying area**
- Bedding/Mucking-out
- Runyard

Conventional cow cubicles



Nothing is
impossible
for cows!



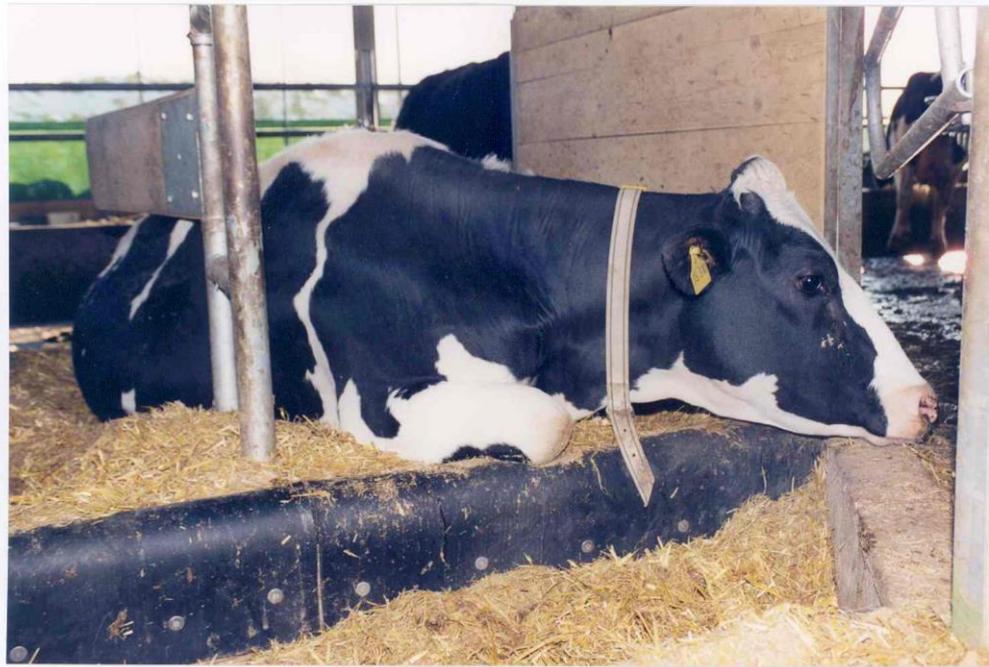
Optimised cow cubicles



No additional space required, as headroom is already available for taking the swing

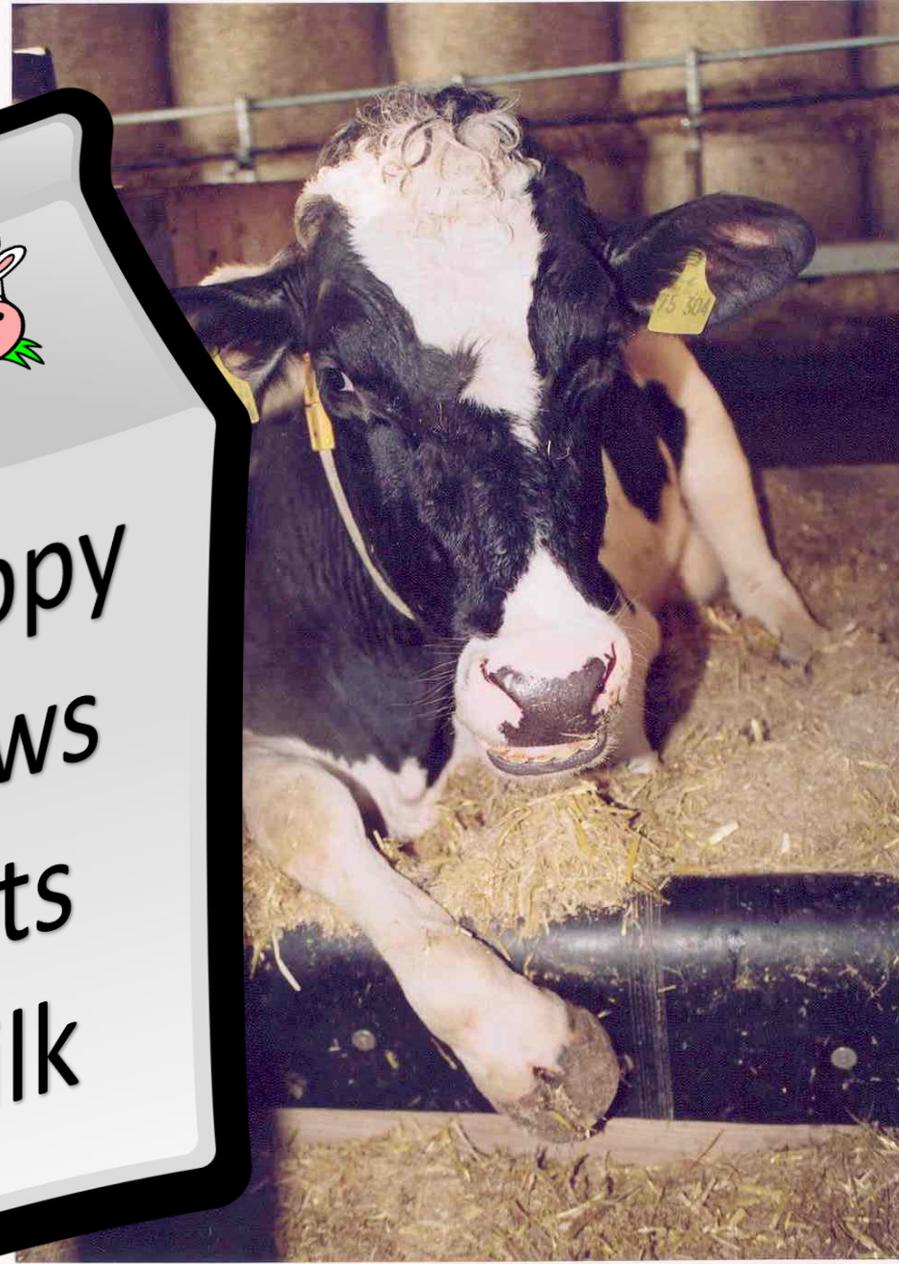
Additional costs per cow place approx. 50€ - with total construction costs per cow place of 20.000€.

Can basically be implemented with any type of cow cubicle





Happy
COWS
Lots
Milk



Space and functional programme

- Feeding area
- Lying area
- **Bedding/Mucking-out**
- Runyard

Recommendation SVLFG

Booklet „Rinderhaltung“, 2022

Straw platform for storing grit and bedding for cow cubicle stables



Straw stage



No stepping on the animal pens during bedding

Dry storage of the bedding material (no risk of mould growth)

Optimal utilisation of the enclosed space

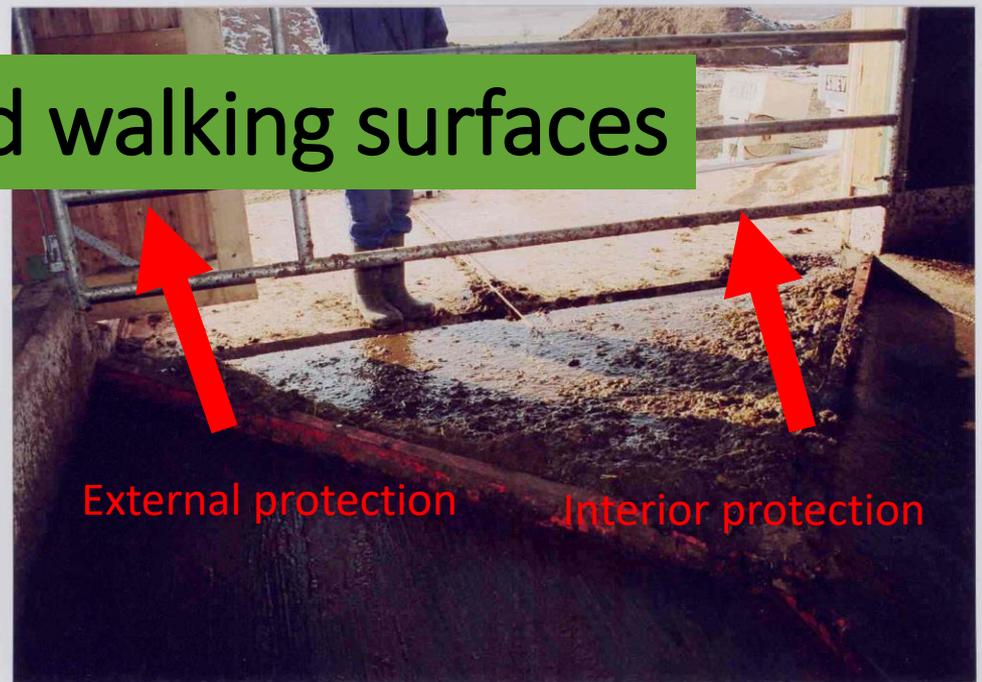


De-mucking/ Walkway design

Slatted floor with slurry cellar



Manure removal/ paved walking surfaces



Stationary gate valve system with discharge chute

Manure removal robot

Alternative to
stationary slide
gate system or
manual cleaning



Example:
Collector with
compressor

Manure removal robot

Alternative to stationary slide gate system or manual cleaning



Example: Collector with paddle system

Space and functional programme

- Feeding area
- Lying area
- Bedding / mucking out
- **Runyard**

Runyard



Ideally with dual use:
e.g. as waiting area or
with roofed cubicles
as stable extension



Trend: Structured Runyard



Conclusion :

- There is no standard solution
- Stable concepts have to be developed individually
- Good planning takes time and good experts





*Treat your cows well, or
you will have ruined it for
life with any number of
gods !*

निवेदक