

# Smart Cleanroom Management

a concept becomes reality

# NextPharma at a glance



Leading European Pharmaceutical CDMO focused on attractive technology niches

## MANUFACTURING / SITES



10 Manufacturing facilities



5 Logistics sites

## ORGANIC GROWTH



Constant double digit  
Growth in revenues

## ENDS MARKETS SERVED



60+

## EMPLOYEES



≈ 2,400 Employees



≈ 25% In Quality roles

## PRODUCTS

- Solids / Pellets
- Hormones
- Liquids / Semi-solids
- Penicillins / Cephalosporins
- Ophthalmics / Blow-fill-seal
- Softgels/Liquid-filled Hardshells
- High potent
- Nutritional
- Chewable tablets



## REGULATED BY

- FDA (USA)
- EMA (Europe)
- Anvisa (Brazil)
- ROW



# Manufacturing Network



## Centres of excellence

**1** Asker



Chewable Tablets  
8,000 m<sup>2</sup>

**2** Berlin



Penicillin  
1,700 m<sup>2</sup>

**3** Bielefeld



Pellet dosages  
3,400 m<sup>2</sup>

**4** Edinburgh



Liquid filled Hard Capsules  
900 m<sup>2</sup>

**5** Göttingen 1



Oral Solids  
5,600 m<sup>2</sup>

**6** Göttingen 2



Cephalosporins  
900 m<sup>2</sup>

**7** Limay



Oral Liquids & Suppositories  
3,600 m<sup>2</sup>

**8** Ploërmel



Softgel Capsules &  
Microdosing  
5,500 m<sup>2</sup>

**9** Tampere



Sterile Ophthalmics  
4,000 m<sup>2</sup>

**10** Waltrop



Hormones & Semi-Solids  
4,300 m<sup>2</sup>



# Reinraum

## Anforderungen und äußere Einflüsse

Compliance



Validität



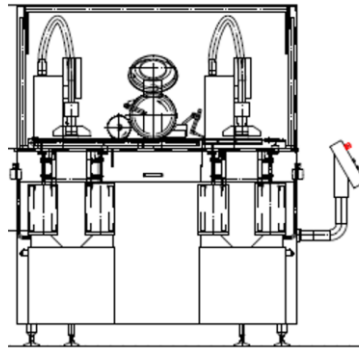
Produktivität



Anforderungen  
(Spec.)



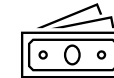
Shopfloor / Cleanroom



Design / Auslegung



Versorgungs-  
kapazität



Energiekosten



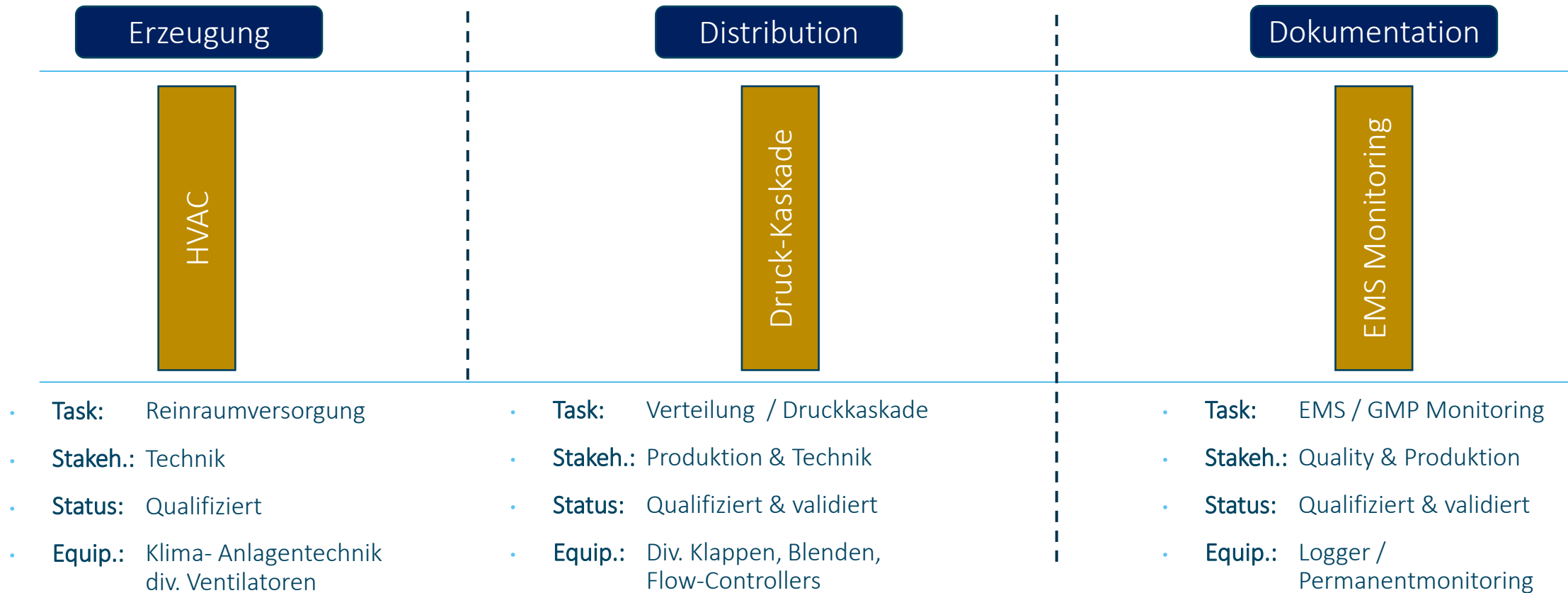
Klimawandel



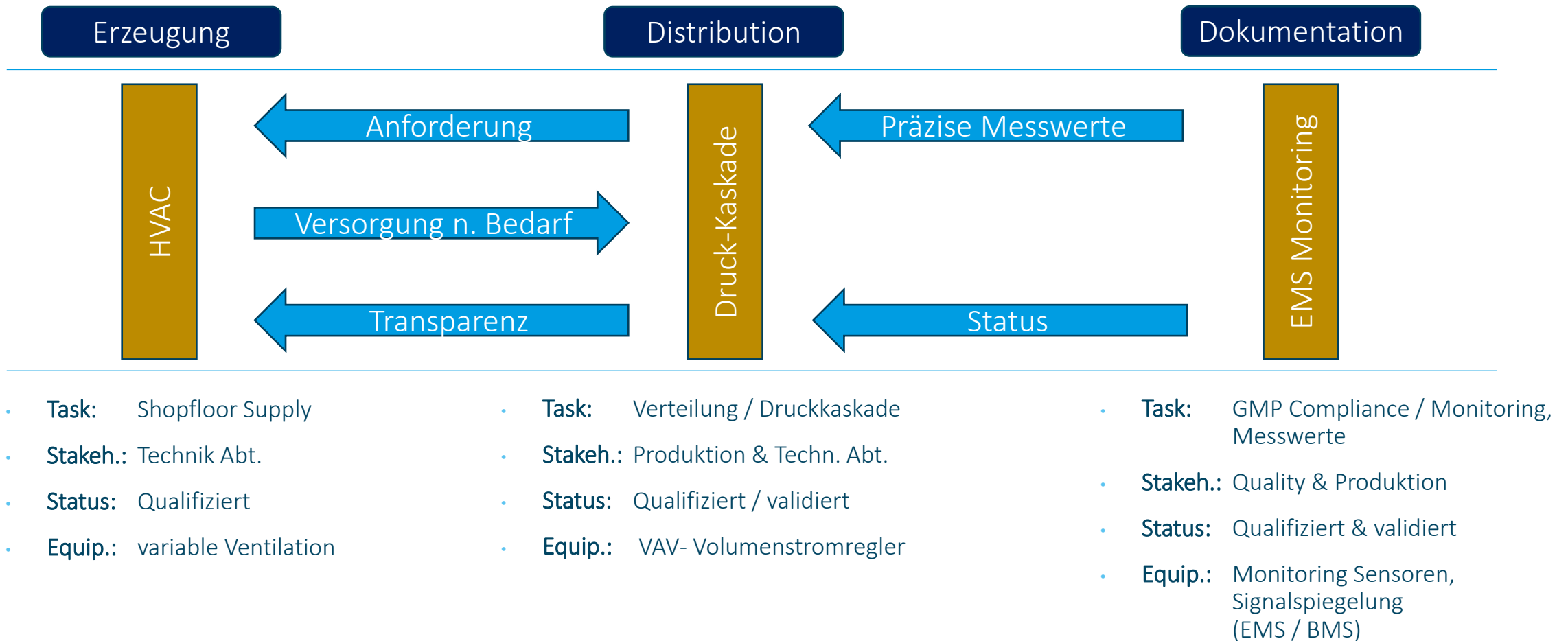
Emission

# Reinraum

## Standardapplikation- Struktur und Verantwortung

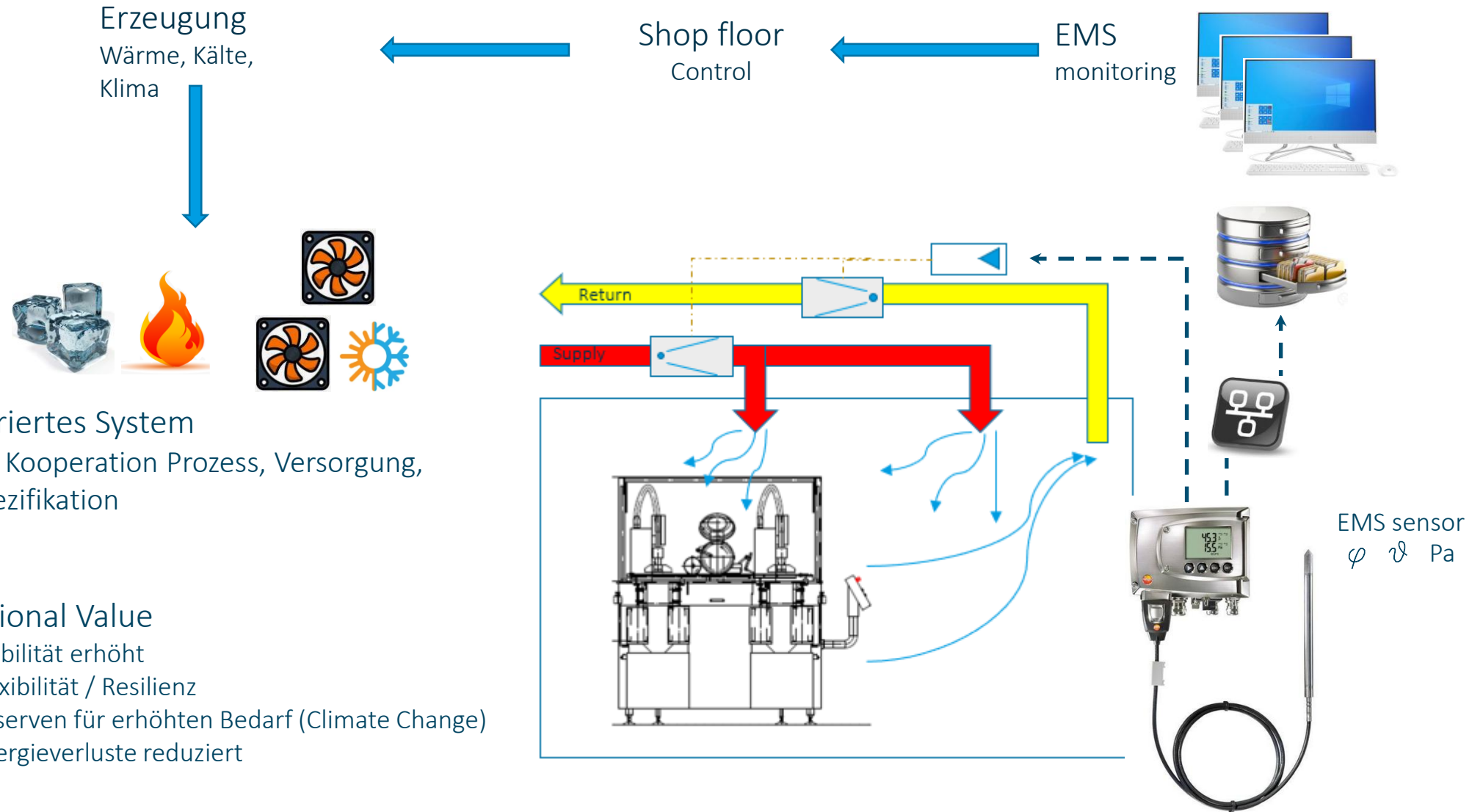


## Smartsolution- Struktur und Verantwortung



# Smart Cleanroom Setup

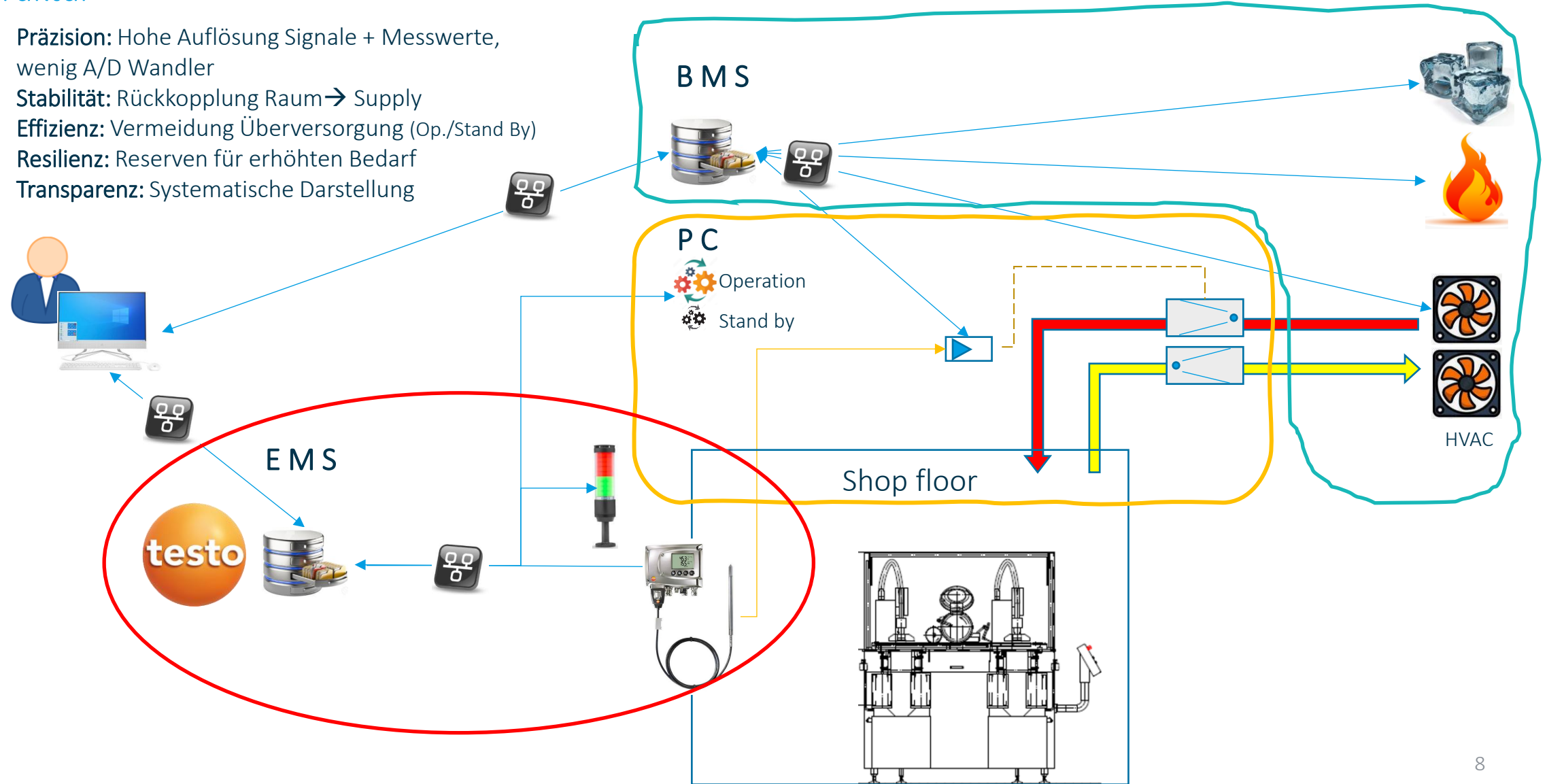
## Integriertes Raum-/ Shopfloor-Konzept



# Integriertes Shopfloor Management

## Struktur

- **Präzision:** Hohe Auflösung Signale + Messwerte, wenig A/D Wandler
- **Stabilität:** Rückkopplung Raum → Supply
- **Effizienz:** Vermeidung Überversorgung (Op./Stand By)
- **Resilienz:** Reserven für erhöhten Bedarf
- **Transparenz:** Systematische Darstellung



# EMS- Monitoring

## Systeminteraktion

### EMS- Besonderheiten

- **Sensor** mit Signalsplitter
- **Staff-displays** zentral sichtbar
  - Raum orientiert
  - Life Messwerte
- **Meldeleuchte** je Raum
- **Modus** Betrieb / Stand- By (Audit-Trail, electr. signature, etc.)  
GMP- compliant,
- Befehl raumweise

### EMS-Monitoring validiert

#### Windows Clients

EMS- Zugang via Office  
PC  
LDAP- Authentifikation

#### Server

Virtual Maschine  
EMS Monitoring  
Applikation

#### IP- Kommunikation

logical-net

#### Staff- Monitore

1 je Bereich  
Grundriss  
Life Messwerte  
Statusindikator  
Hintergrundfarbe je  
Raum

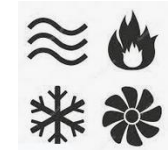
#### EMS- Sensor

Datenspeicher (Back-Fill)  
Signal :  
GMP via TCP/IP  
HVAC 3x0-10V (analog)

#### Status LED je Raum

- ok (Operation)
- Alarm
- Pause / Service

### HVAC qualifiziert



#### HVAC MSR / BMS

- Statusmeldung von EMS  
Operation / Pause
- I/O Sensor-Interface  
0-10V Messwerte



Say yes to what's next

[nextpharma.com](http://nextpharma.com)

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