

### SIKORA'S PRODUCT PORTFOLIO FOR HOSE & TUBE AND PLASTICS APPLICATIONS

K Dusseldorf CLUB Tokyo, Japan

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#### SIKORA STANDS FOR GROWTH



4

Business areas:

Wire & Cable

13

Hose & Tube

**Plastics** 

Service



16%

Share of R&D employees

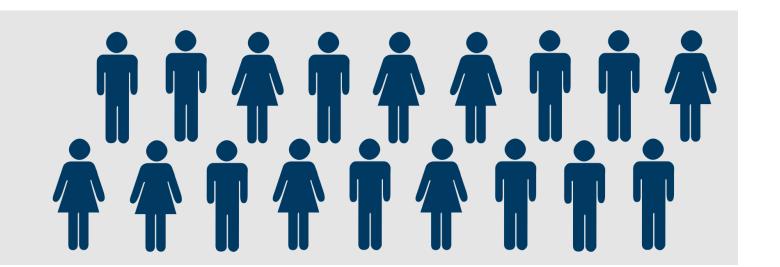
Subsidiaries 30 Representatives worldwide















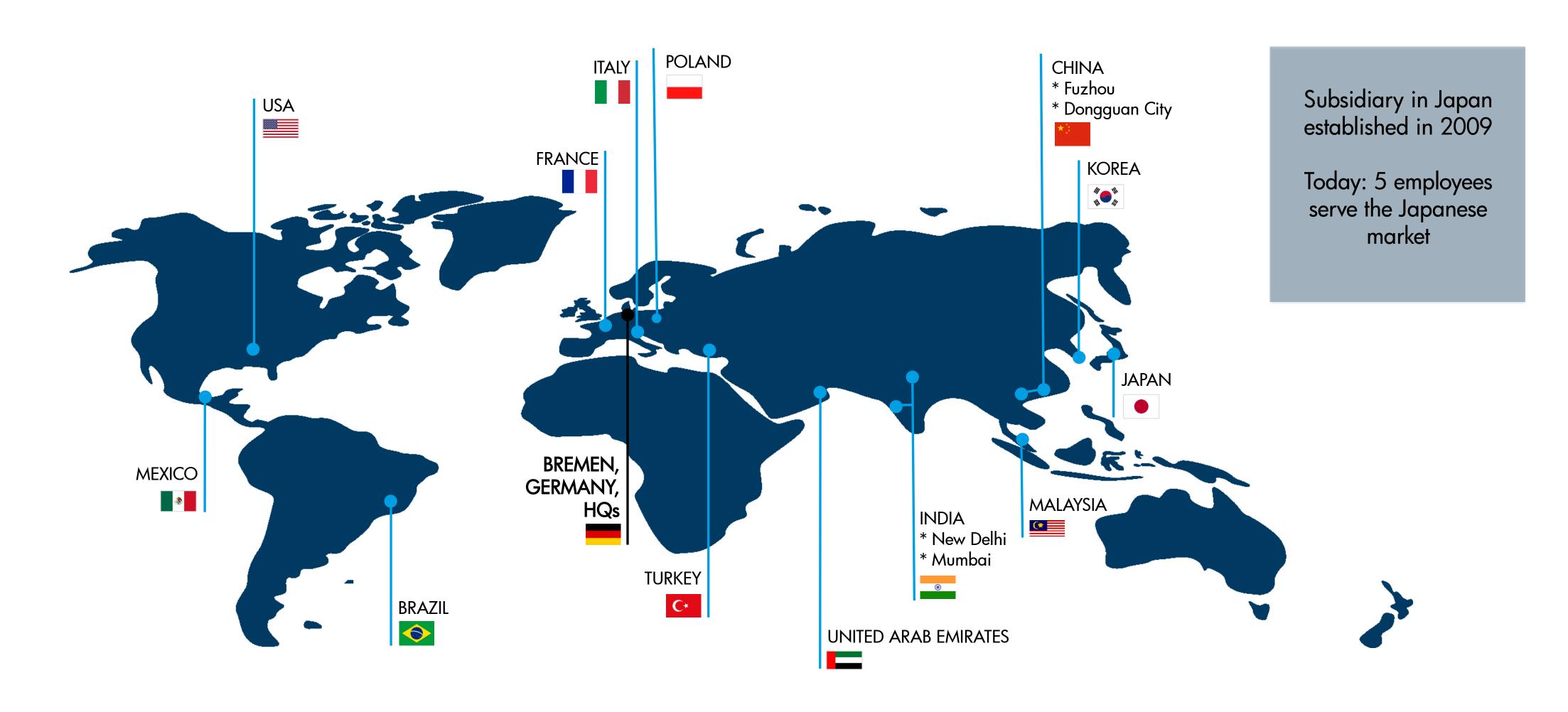
R&D and production at the company headquarters in Bremen

130

Countries where SIKORA customers come from

### YOU FIND US, WHERE YOU NEED US



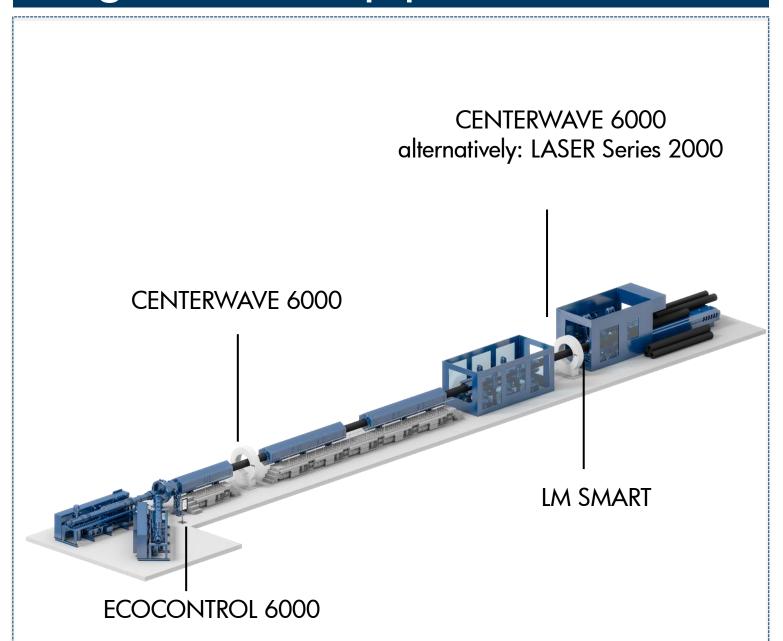


13 operating international subsidiaries & worldwide more than 30 representatives for a fast support

#### SIKORA SOLUTIONS FOR HOSE & TUBE EXTRUSION LINES



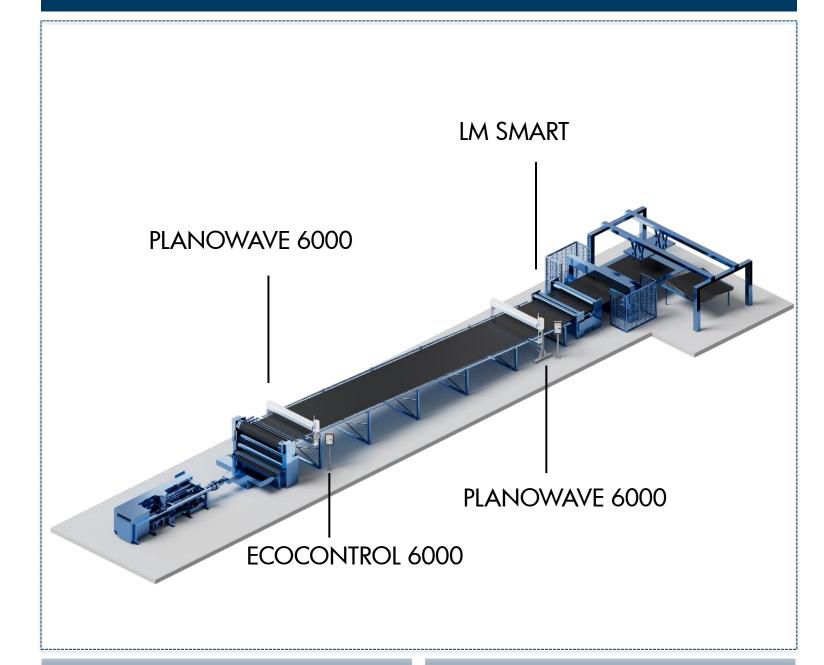
#### Large diameter pipe extrusion line







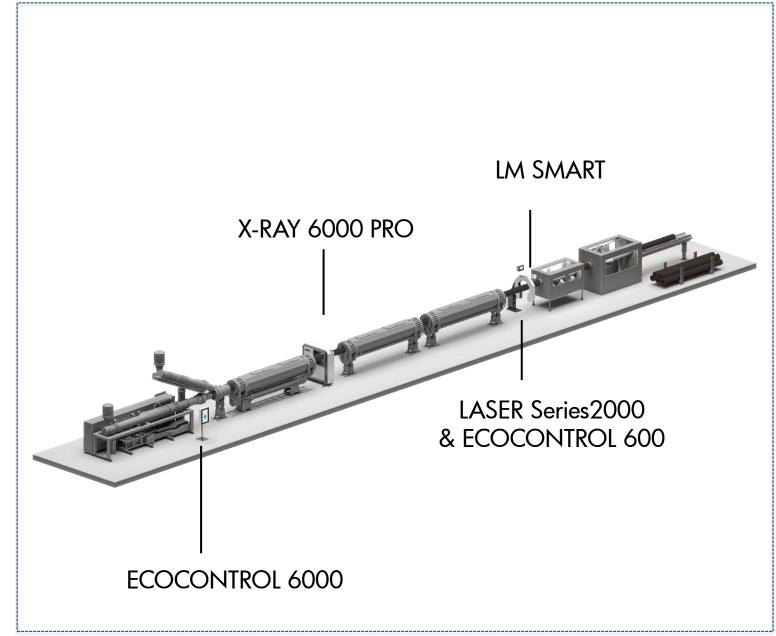
#### Sheet extrusion line







#### Foam core pipe extrusion line







# PIPE EXTRUSION – CENTERWAVE 6000



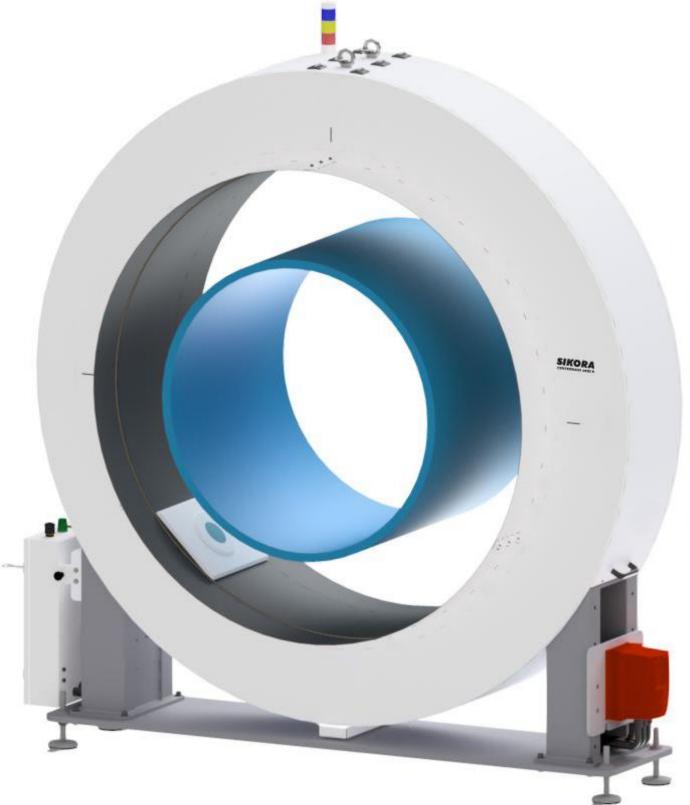
#### Online measurement of:

- Wall thickness in 360° (min/max/avg)
- Diameter
- Ovality
- Inner profile (sagging)
- Automatic S<sub>min</sub> control
- for pipes from Ø 32 to 1,600mm



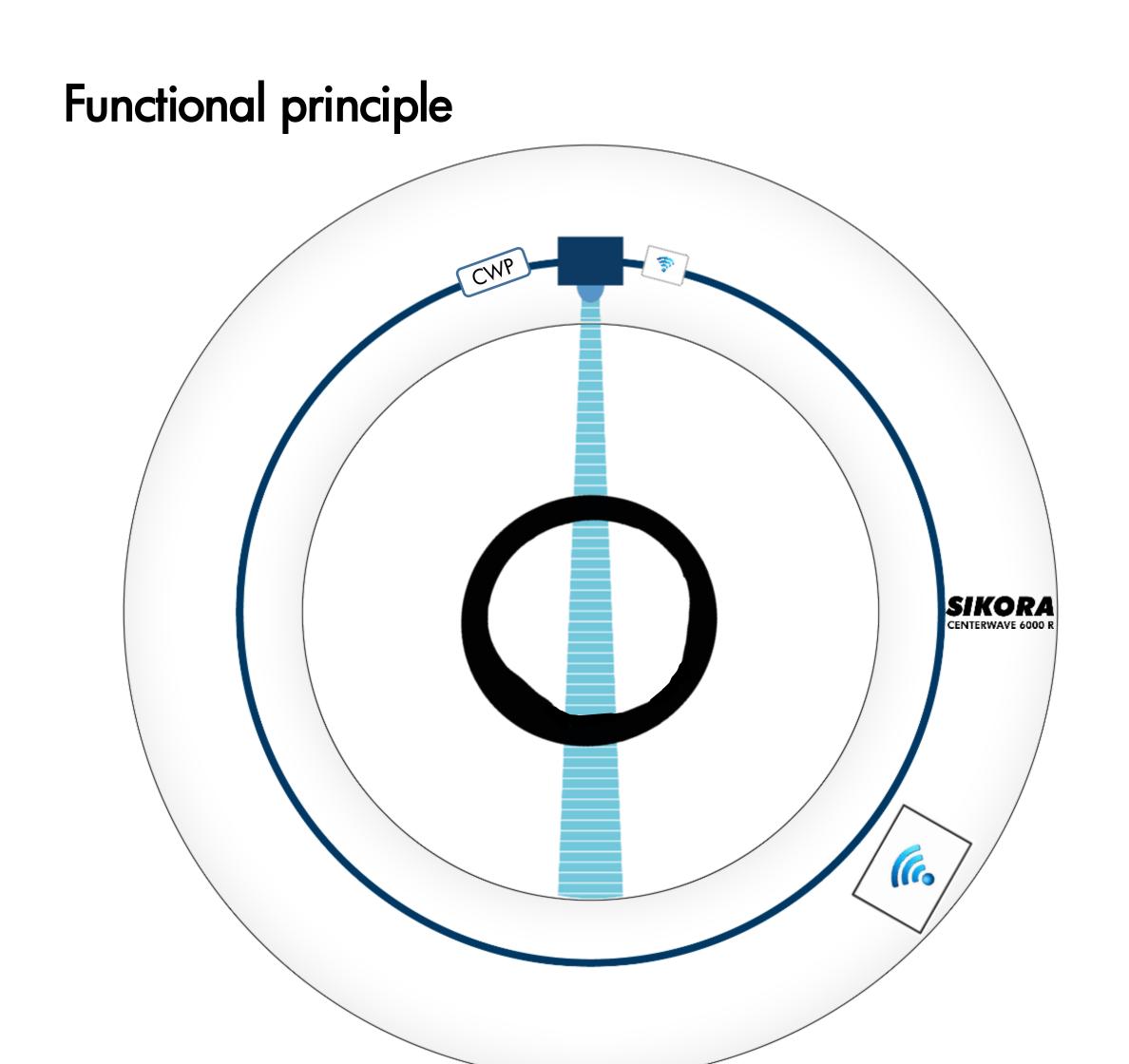






### CENTERWAVE 6000







Every 0.2  $^{\circ}$  = 1 measurement

### CENTERWAVE 6000



#### **Technical features**





#### No calibration

Patented automatic determination of the refractive index\* allows to measure pipes of any plastic material or dimension without pre-settings or calibration.

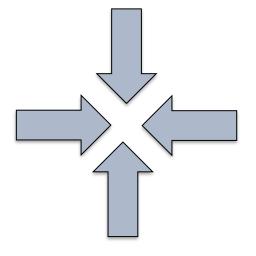
Also temperature of material or its melt-status can be neglected





#### No coupling media (water)

Fluctuations in water temperature or quality as well as air-bubbles do not affect the measurement





#### Automatic centering (option)

Once aligned in the extrusion line, the system automatically remains centered to the pipe





#### Dynamic speed adjustment (option)

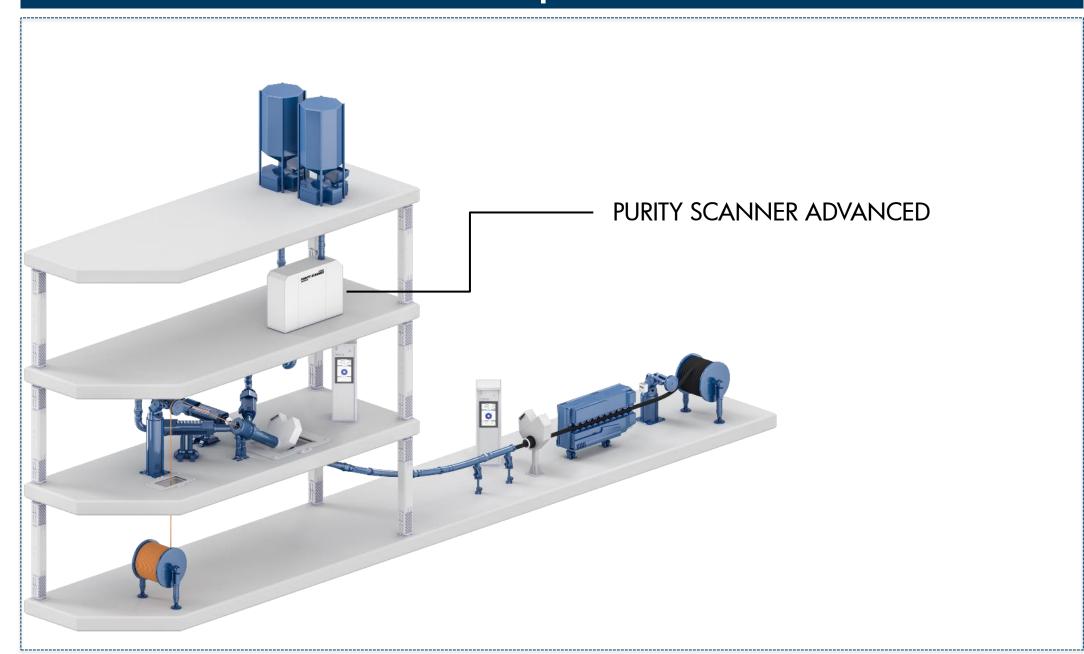
Rotation-speed is automatically adapted to the line-speed to allow a 100% coverage over the pipe's circumference



### SIKORA SOLUTIONS FOR INSPECTION, SORTING & ANALYSIS



#### Raw material inspection in CV line

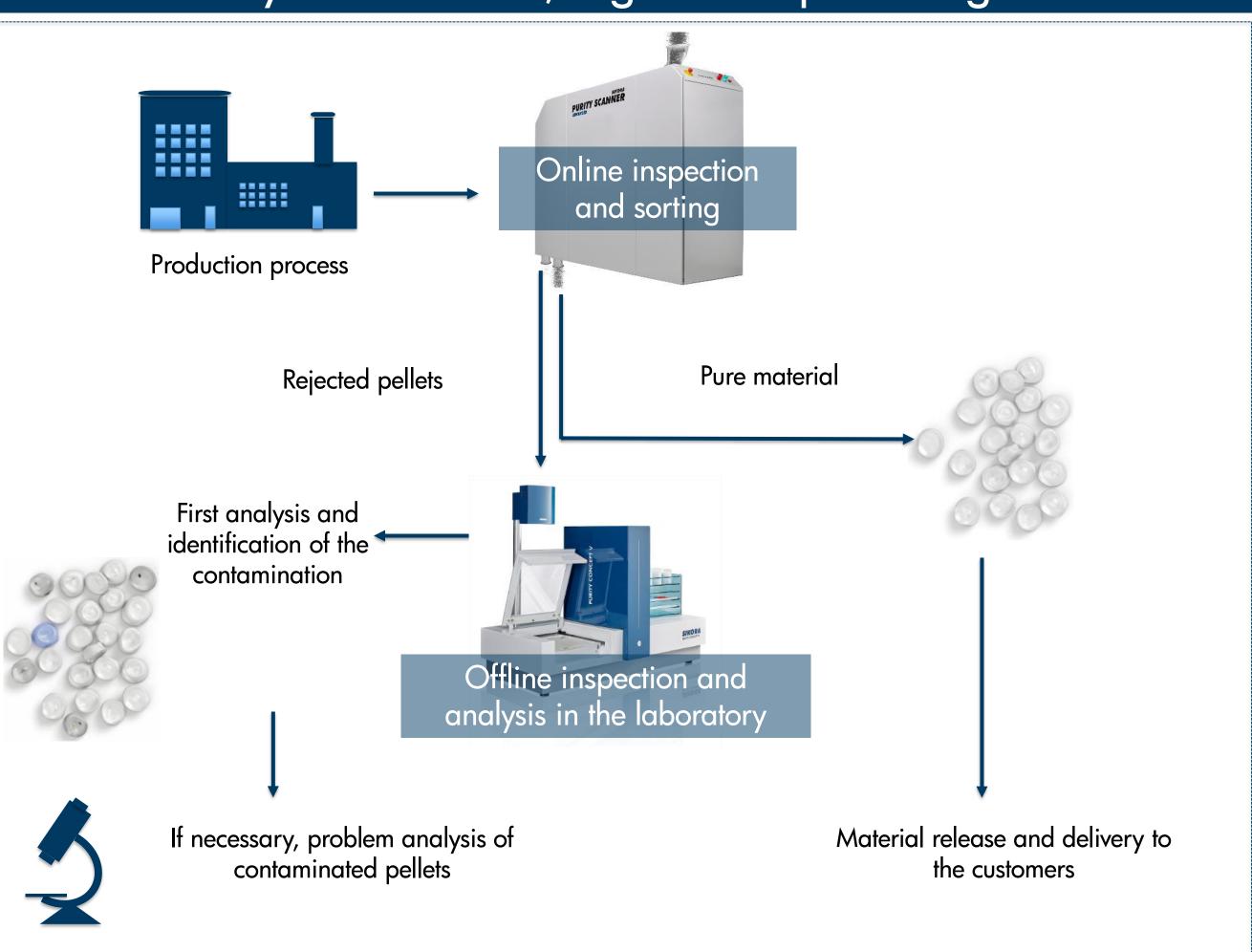








#### Use by the customer, e.g. in compounding lines



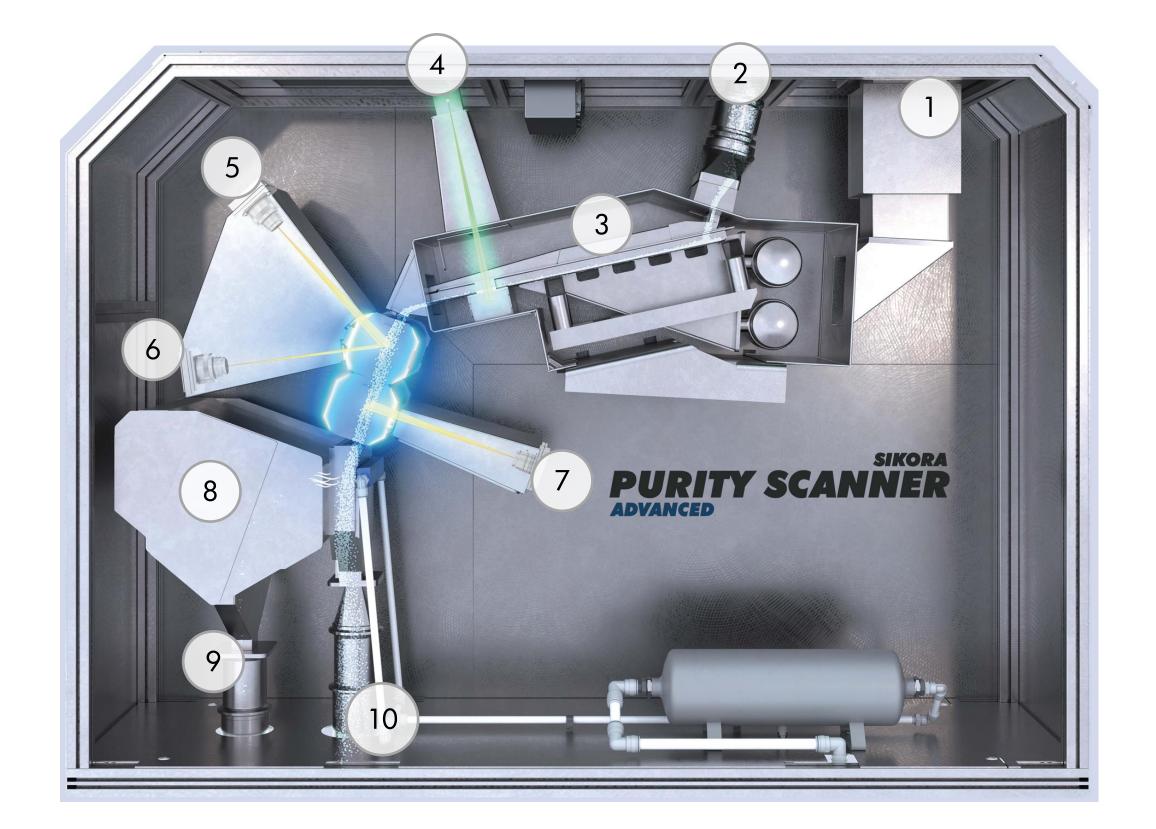
# ONLINE INSPECTION AND SORTING – PURITY SCANNER ADVANCED

### SIKORA Technology To Perfection

#### Flexible camera system for all requirements

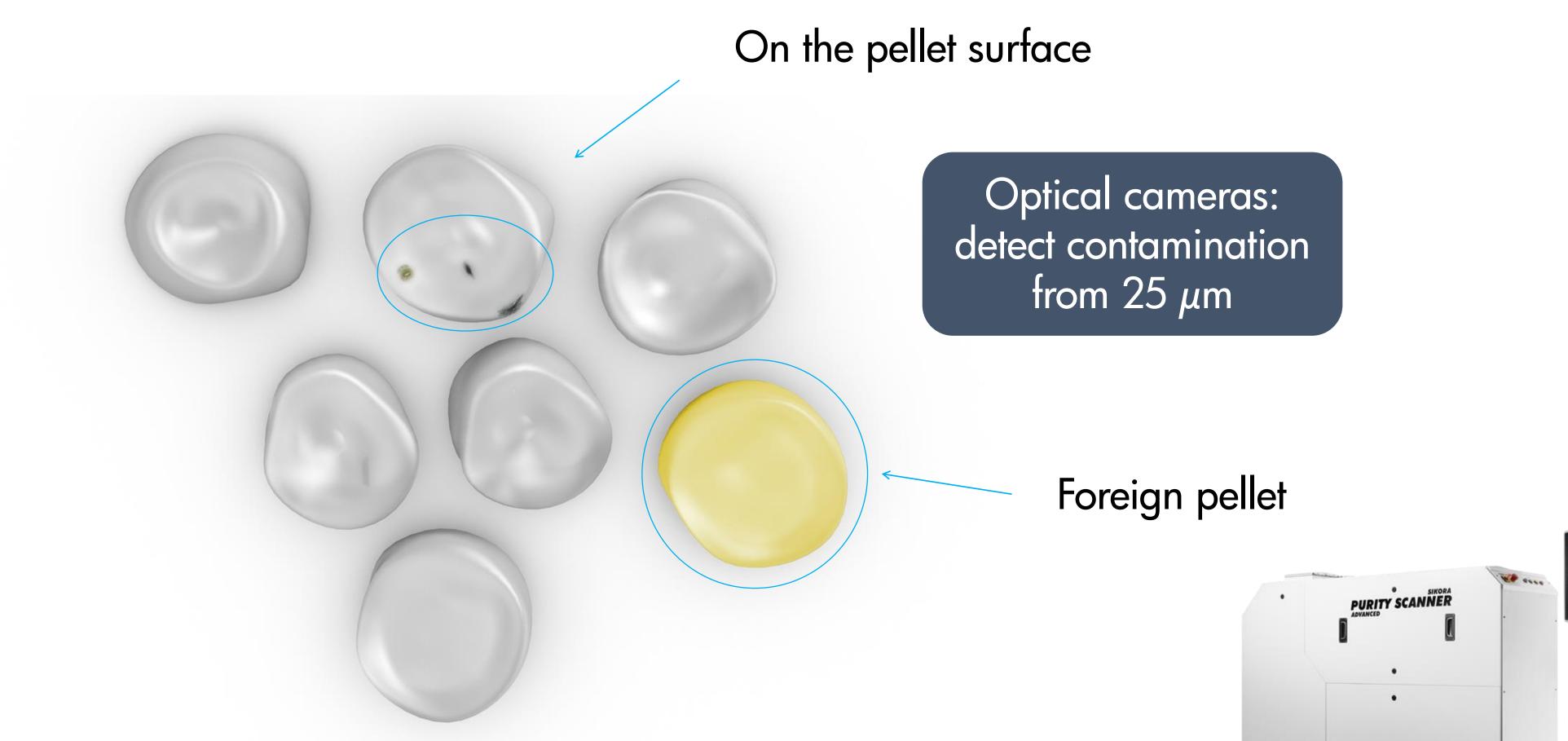
#### Contaminants are:

- detected by X-ray technology and an optical inspection inside the pellet as well as on its surface
- sorted out automatically
- 1 Fine filter/overpressure system for integrated clean room
- 2 Material feed
- 3 Stainless steel vibration chute
- 4 X-ray inspection
- 5-7 Optical inspection: black and white camera
- 8 Sorting unit
- 9 Rejected material
- 10 Clean material



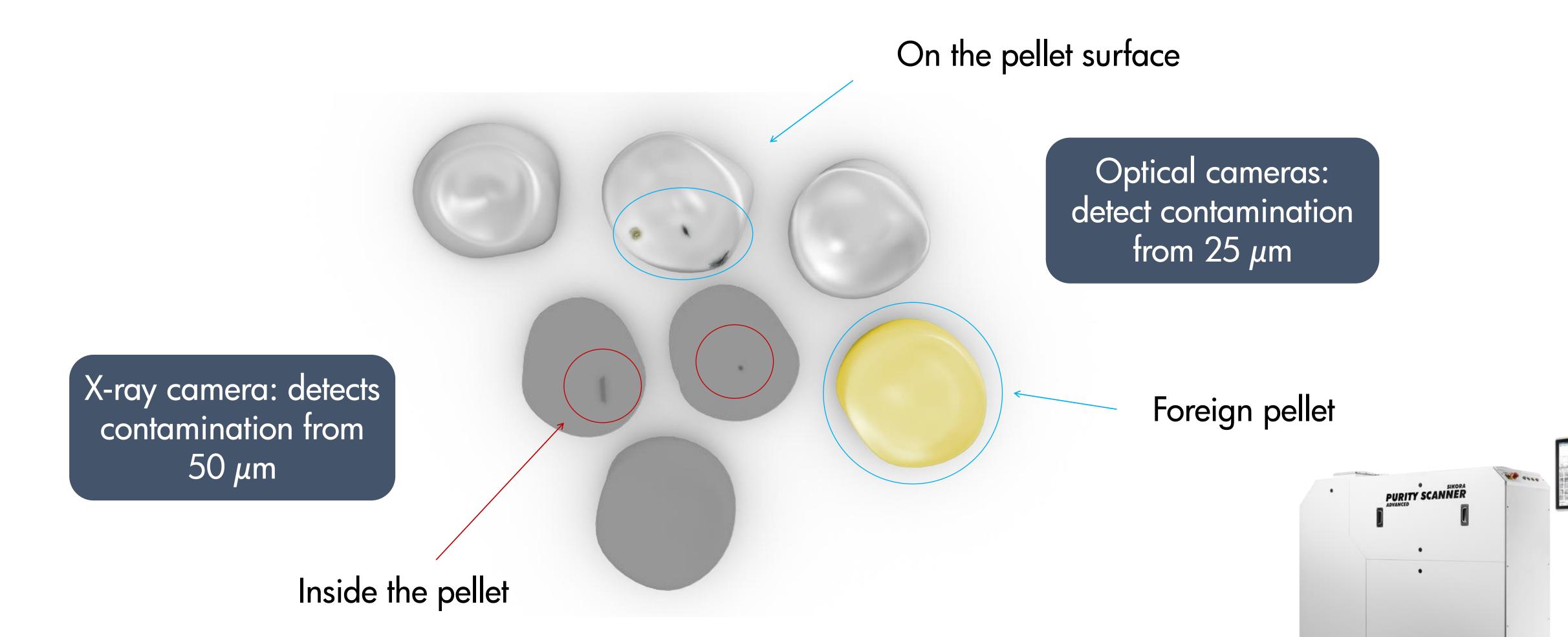
# INSPECTION OF CONTAMINATION – PURITY SCANNER ADVANCED





# INSPECTION OF CONTAMINATION – PURITY SCANNER ADVANCED





# OPTICAL OFFLINE INSPECTION AND ANALYSIS – PURITY CONCEPT V

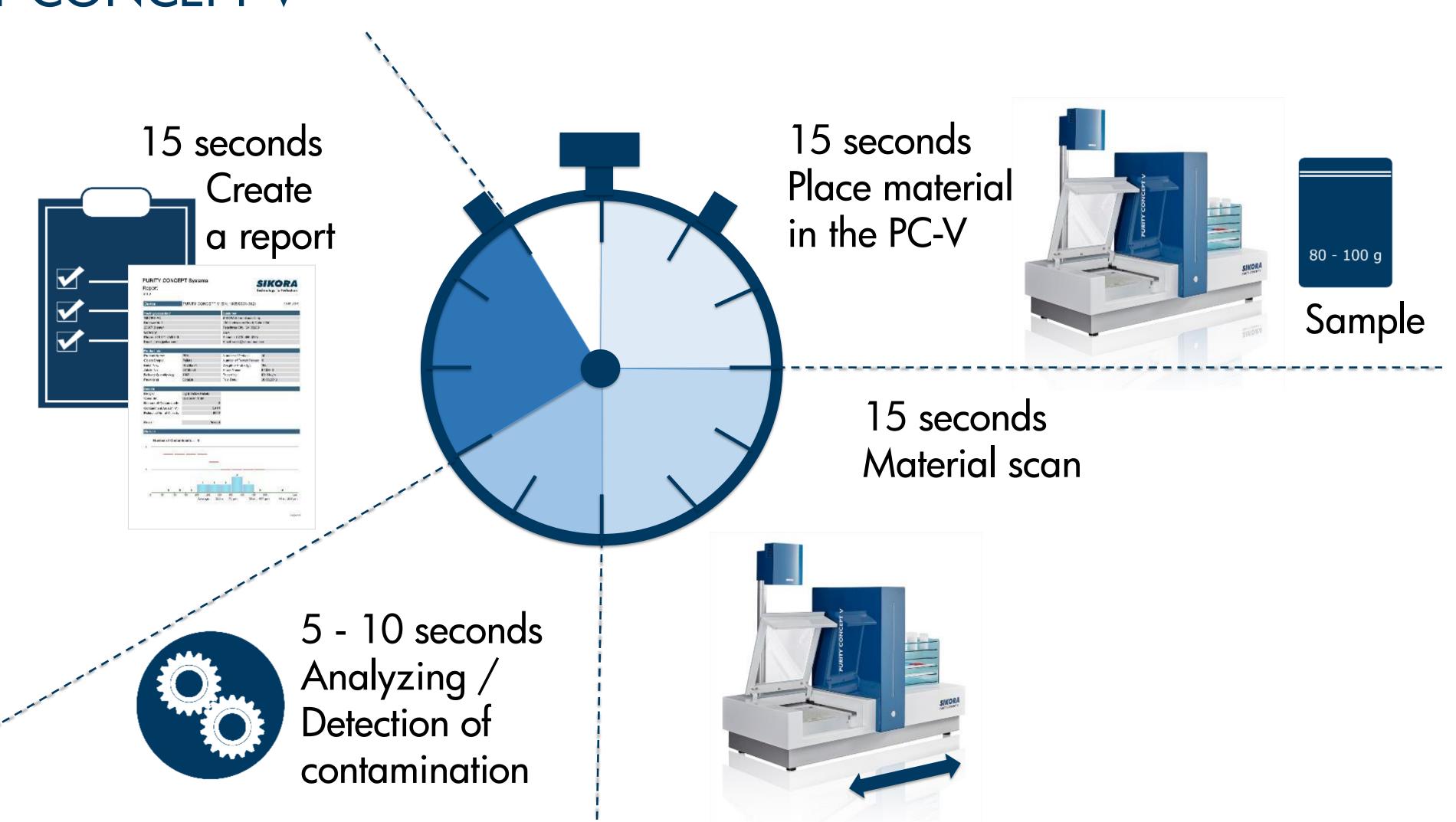




- Detection of optical contamination  $\geq 50 \, \mu \mathrm{m}$ 
  - Black specks
  - Colored specks
  - discolorations
- Broad spectrum of samples:
  - Pellets
  - Flakes
  - Plates
- Reproducible optical laboratory test with automatic analysis and statistics (1x test, multiple evaluation options)
- Test certificate

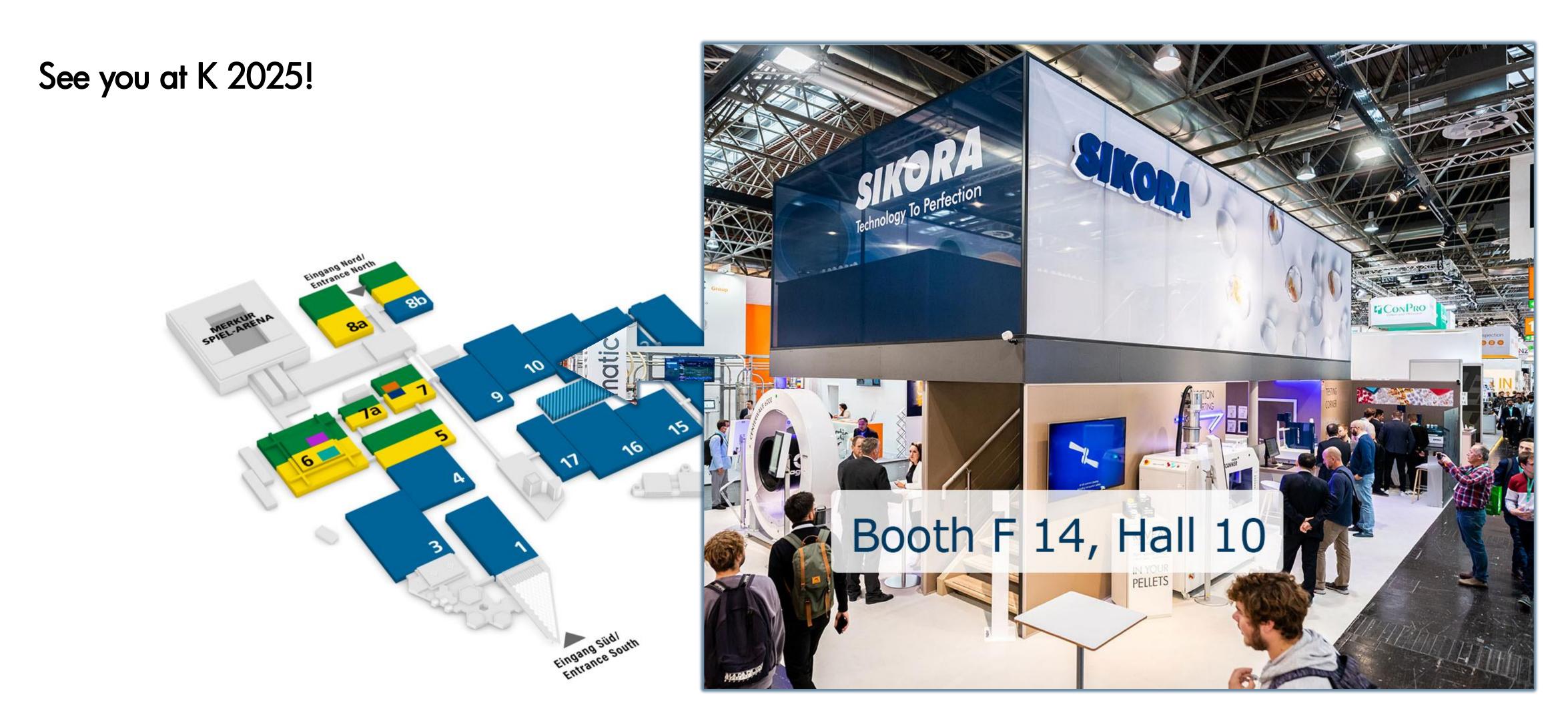
# OFFLINE INSPECTION AND ANALYSIS < 1 MINUTE – PURITY CONCEPT V





### THANK YOU FOR YOUR ATTENTION!





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