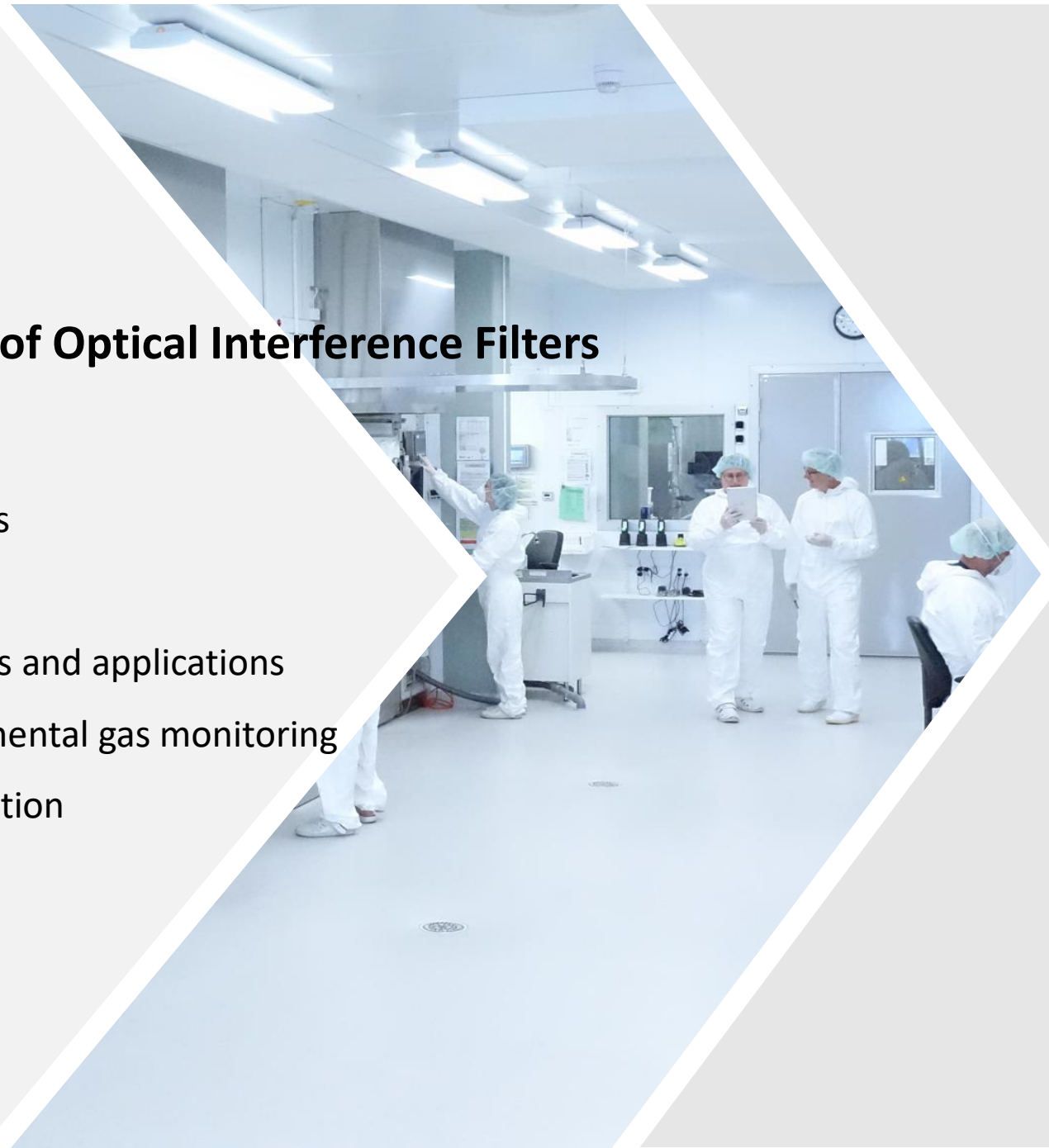


EPIC Online Technology Meeting on Photonics for Climate Change
Spectrogon, Stefan Andersson 2023-04-24



Spectrogon - Supplier of Optical Interference Filters

- Spectrogon
- Thin film coating products
- Capabilities
- OEM customers industries and applications
- Optical filter for environmental gas monitoring
- Water monitoring application



Spectrogon

- Headquarters and production Stockholm, Sweden
- Sales office in Scotland and in the US
- Over 40 years experience
- Develops and manufactures
 - Optical Filters
 - Other Thin Film Coatings
 - Holographic Diffraction Gratings



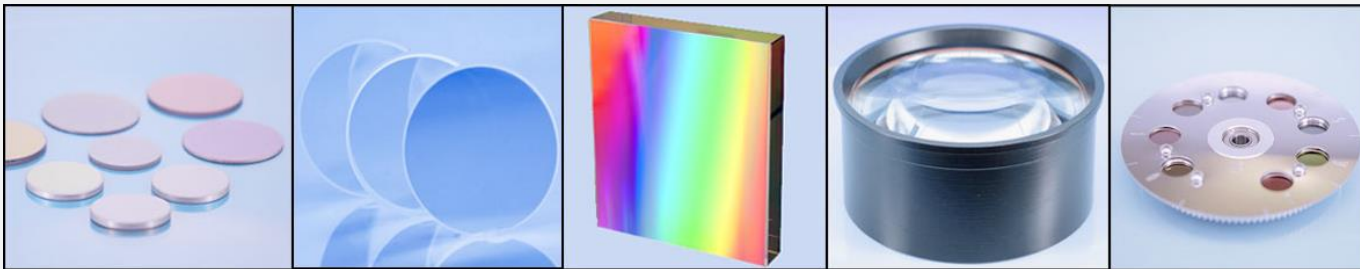
Thin film coating products

■ Optical Filters, range 400-14000 nm

- Bandpass
- Broad-bandpass
- Shortwave-pass
- Longwave-pass

■ Other Coatings

- Beamsplitters
- Neutral Density Filters
- Antireflective Coatings
- Mirrors



Capabilities

- Coating machines
 - Thermal evaporation: 2000-14000 nm
 - Sputtering: 400-2000 nm
- Prototype quantities to high volume production
- All products are quality controlled to verify compliance to the specification
- Rigorous environmental tests according to MIL or ISO standard



OEM customers industries and applications

- Gas process
- Healthcare
- Power distribution
- **Environmental monitoring (Approx 20 % of total sales)**
- Thermal imaging
- Automotive
- Fire and safety
- Defense and space
- Laser and telecom industry



Optical interference filter for environmental gas monitoring

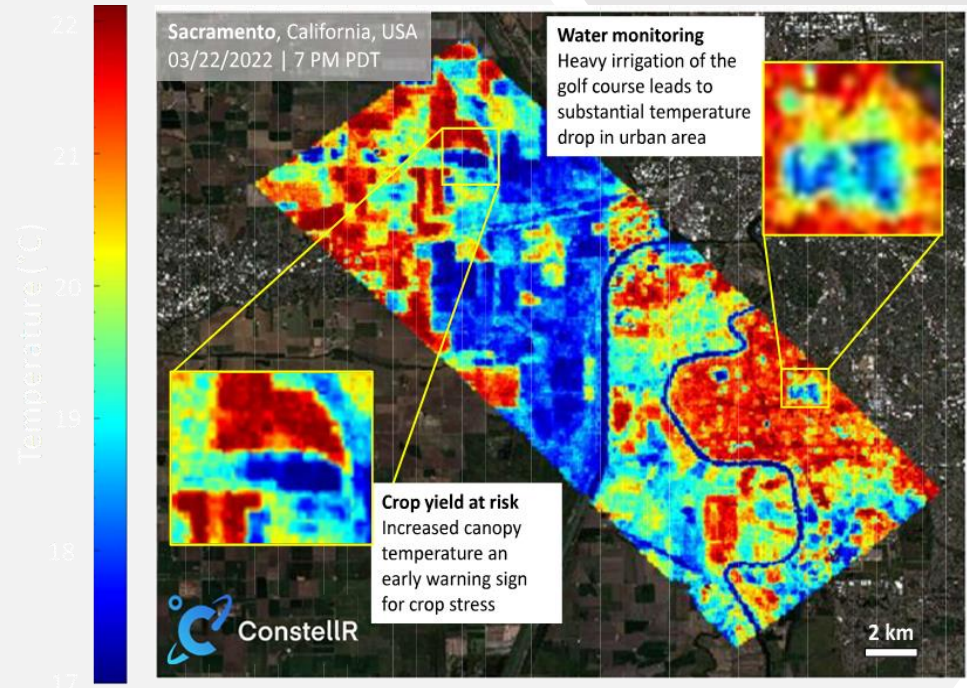
- Optical filters for detectors
- Optical filter coatings on detectors
- Optical filters used to selectively transmitting certain wavelengths of light and reflecting or absorbing others
- Detection of various gases: HC, HC₂, CO₂, CO, N₂O, NO, NO₂, SO₂, SF₆...



SPECTROGON

Water monitoring

- Cooperation project with IRNova
- Spectrogon filter coating directly on IRNova's detectors
- Longwave-pass and shortwave-pass filter coating at approx 10000 nm
- Microsatellites from Constellr
- Water monitoring in Sacramento, California, USA
 - To mark water stress areas in agriculture
 - Increase crop yield and optimize usage of fresh water



AegIR bands: transmission at 77 K

