



A BETTER VIEW OF THE WORLD



# **R&D Division**

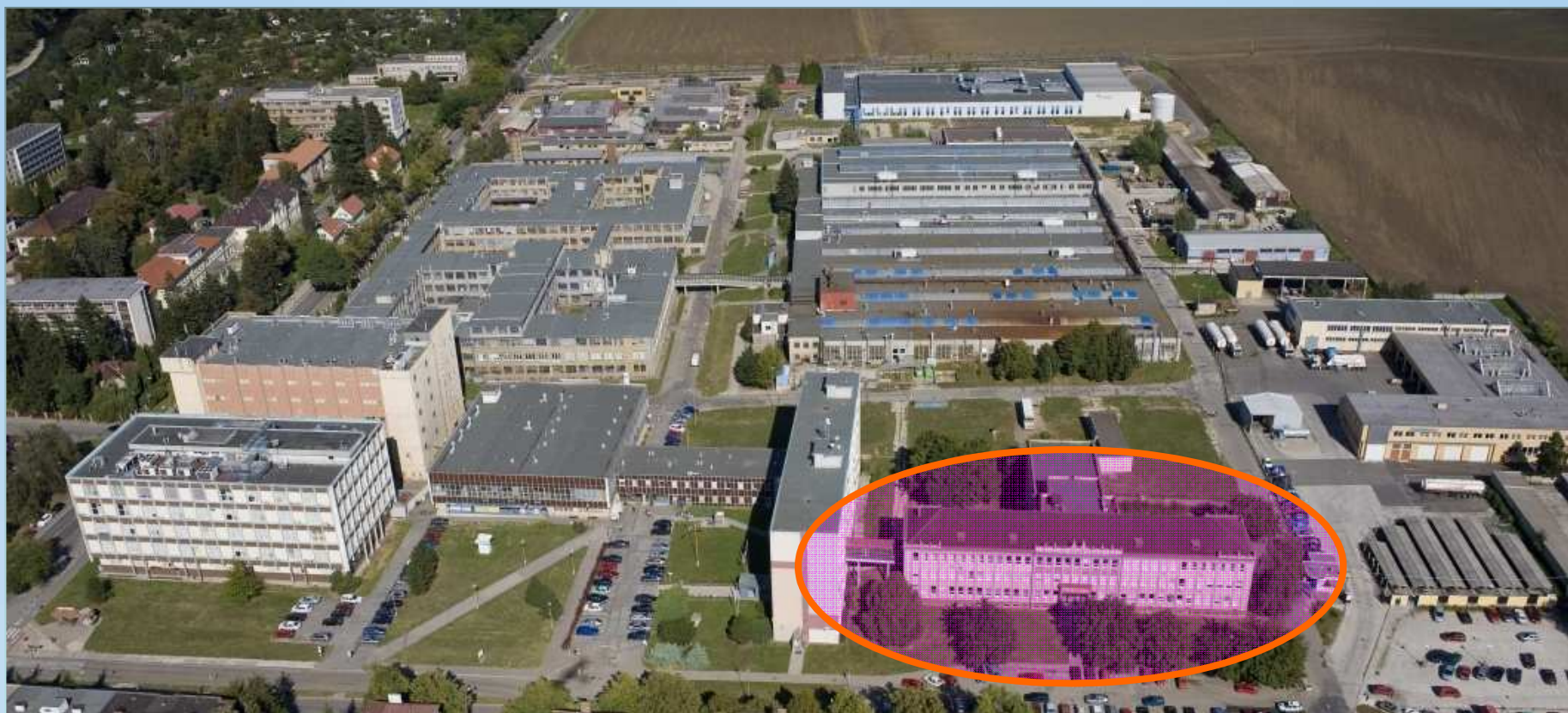
# **Presentation**



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## Meopta – optika, s.r.o. R&D Division





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## R&D Division



- Created in 1953
- Opto-mechanical design activities for last several decades
- History of work with cinema projectors, binoculars, riflescopes, lasers, army products design, measuring equipment, etc.





## Short history



- First serial production of **He-Ne laser** in central and eastern Europe (1964)



- 7 generations of very popular camera **Flexaret** (1939 – 1971)

- Several types of cameras and cinema projectors





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## Project of R&D Modernization

- Reconstruction of R&D center in 2010

- The modernization has included:

- R&D building reconstruction
- Newly constructed cleanroom (class 1000)
- Software: CAD/CAM/CAE systems, Creo WF5, Zemax, etc.
- Prototype workshop reconstruction
- Optical laboratories reconstruction
- Testing laboratories reconstruction



**Project volume: cca. 6,7 mil. USD)**  
(supported by EU funds)





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## **R&D Equipment- Optical Measurements Laboratories**

- Optical testing laboratories comprise several reconstructed laboratories for the development of testing and measurement methods.
- Examples of laboratories equipment:
  - Fizeau Interferometer: ESDI Intelium Z 100 HR
  - Trioptics ACM F300 and ACM F500 multi-use optical device
  - Shack-Hartmann Sensors (Imagine Optic HASO3, etc.) for MTF measurement applications



## R&D Equipment- Test Laboratory Equipment

- Enlarging current capacity and options of testing laboratory with new equipment:
  - Climatic test chambers: Vötsch VC 4018, Vötsch VC 4060
  - Temperature shock test chamber: Vötsch VT 7012 S2
  - Extreme temperatures test and temperature stress chamber: VTS 7026-15
  - Dust test chamber: Vötsch VDT 1000 A
  - Sunlight test chamber: Atlas UVTest
  - Temperature oven: Heraeus UT 6120







## R&D Equipment - Cleanroom

- New R&D cleanroom – built for prototype assembly and measurement method development
- Cleanroom general parameters:
  - cleanroom class 1000
  - Nitrogen 5.0, purity 99.999%
  - ESD monitoring system
  - Ultrasonic cleaning

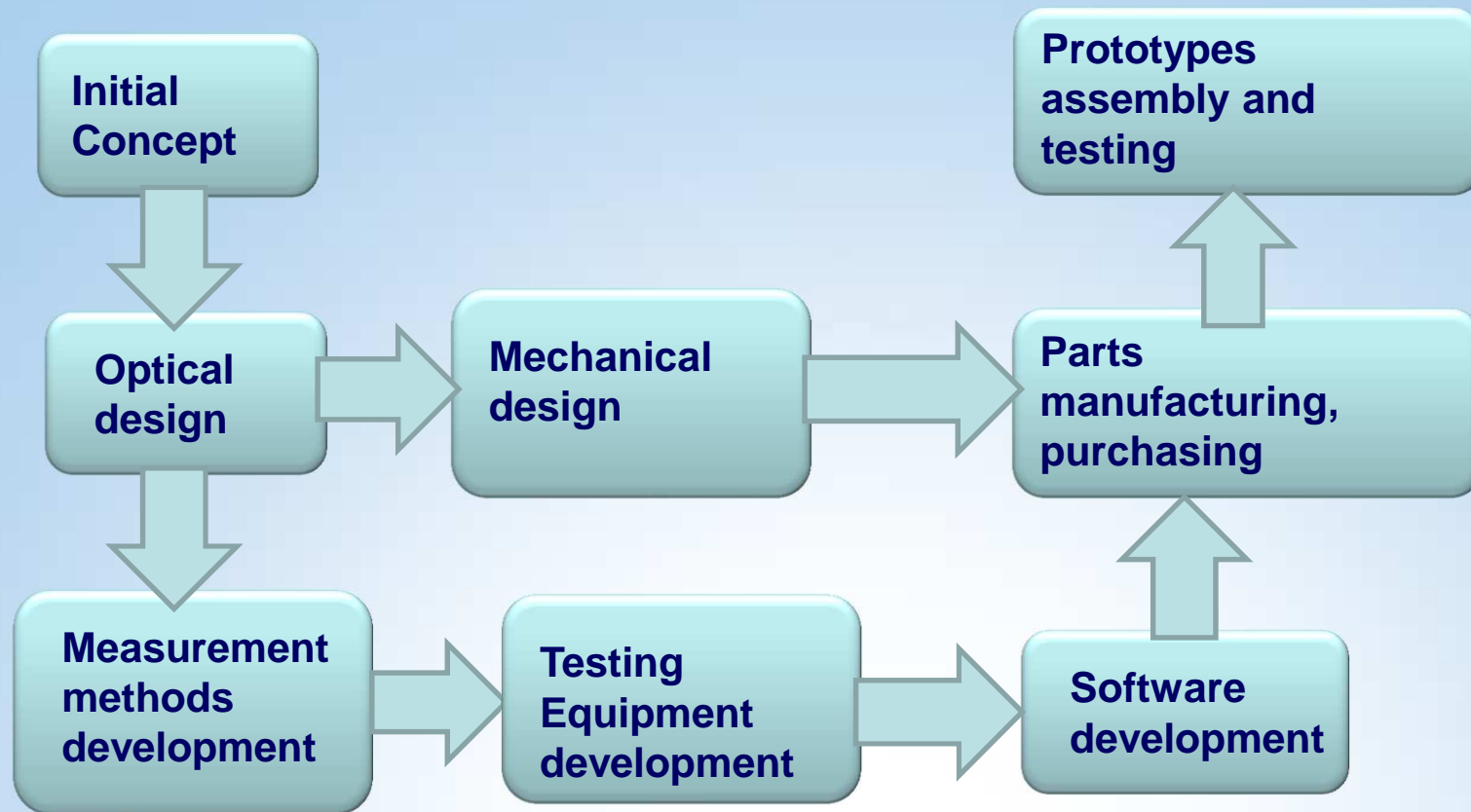






# Product Development

How we bring ideas to life — from initial concept to serial production:





## Examples of R&D Projects

- SPORTS OPTICS- Meopta produces premium quality optics which are characterized by original design, great optical performance, high quality and superior value





## Examples of R&D Projects

- MILITARY PRODUCTS - Soldier systems

### Observation devices

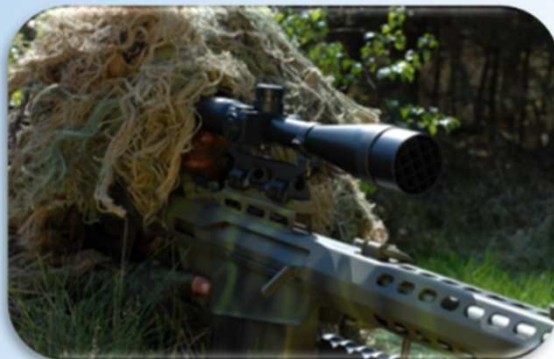


Binoculars, Spotting Scopes

Night Vision Goggles and Monoculars



### Aiming Devices



Tactical Riflescopes

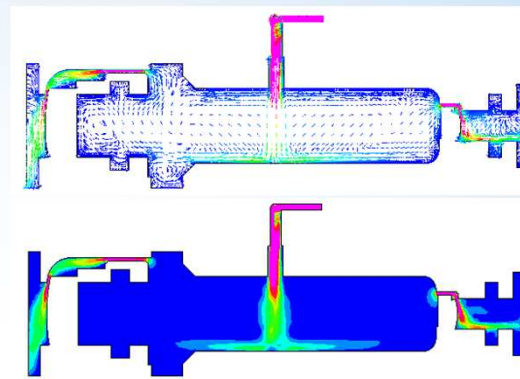
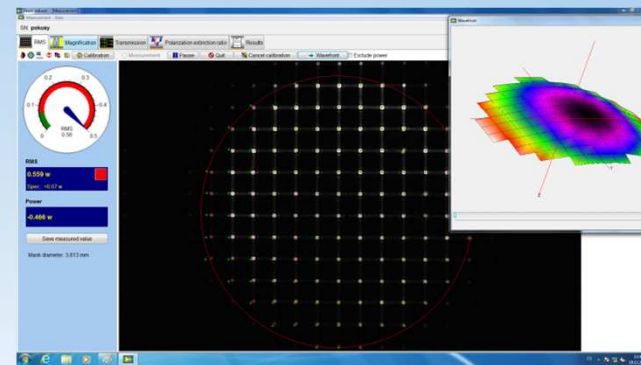
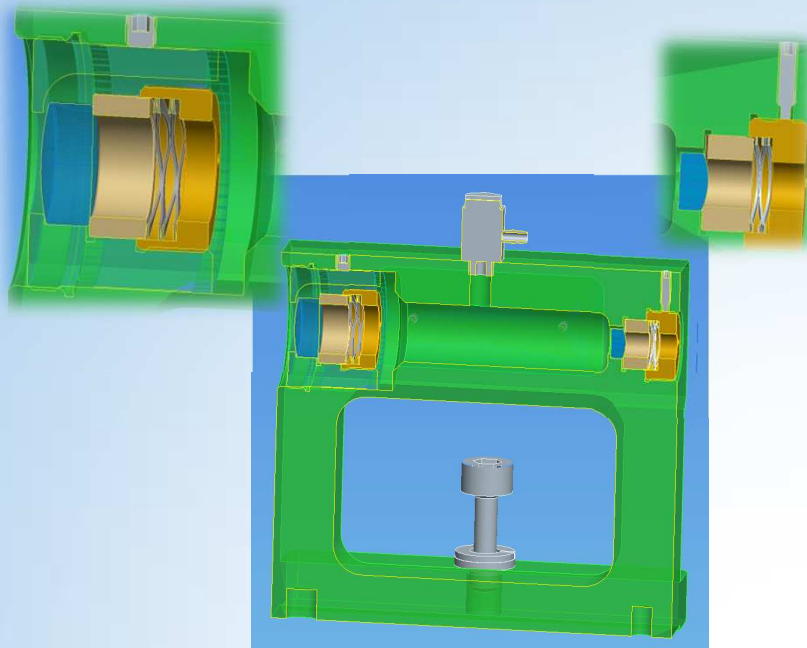
Night Vision Sights  
Red Dot Reflex Sights





## Examples of R&D Projects

- Semiconductor applications
- Wafer inspection industry
- Lithography, integrated joints



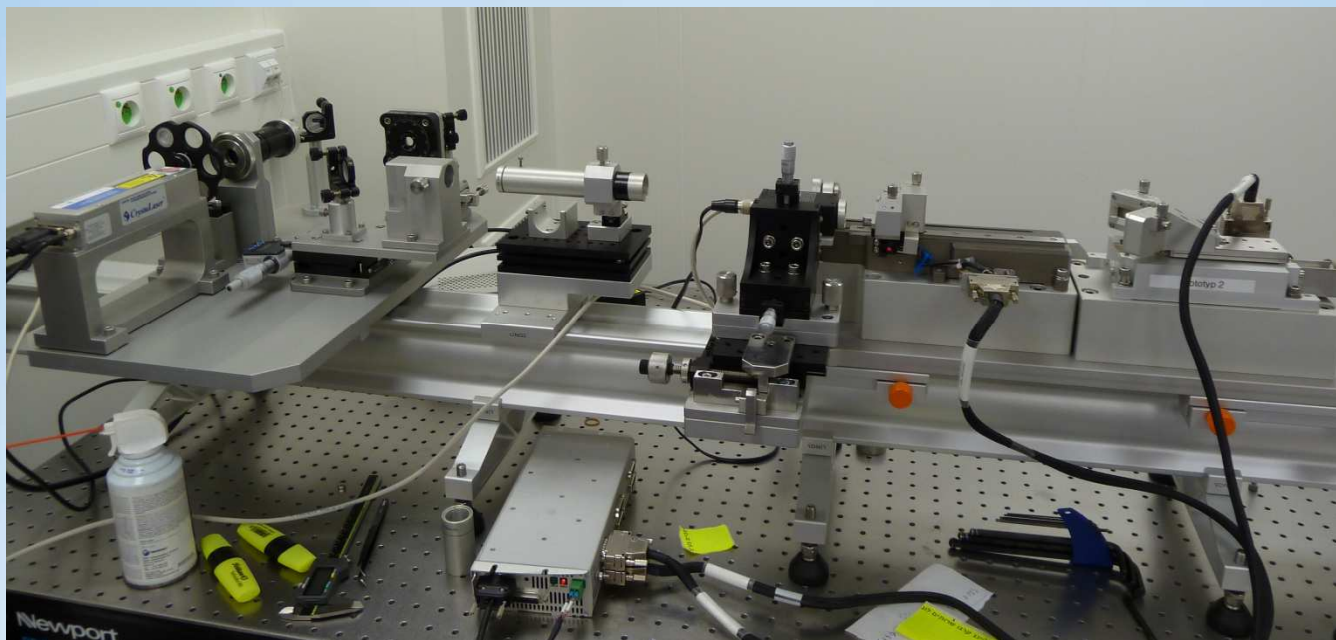




# Examples of R&D Test Equipment Projects

## Opto-Electronics & Semiconductor Industry

An example of the designed test station for custom optical system:

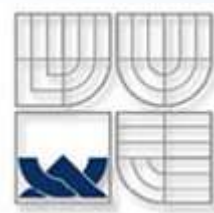




## Cooperation with Universities

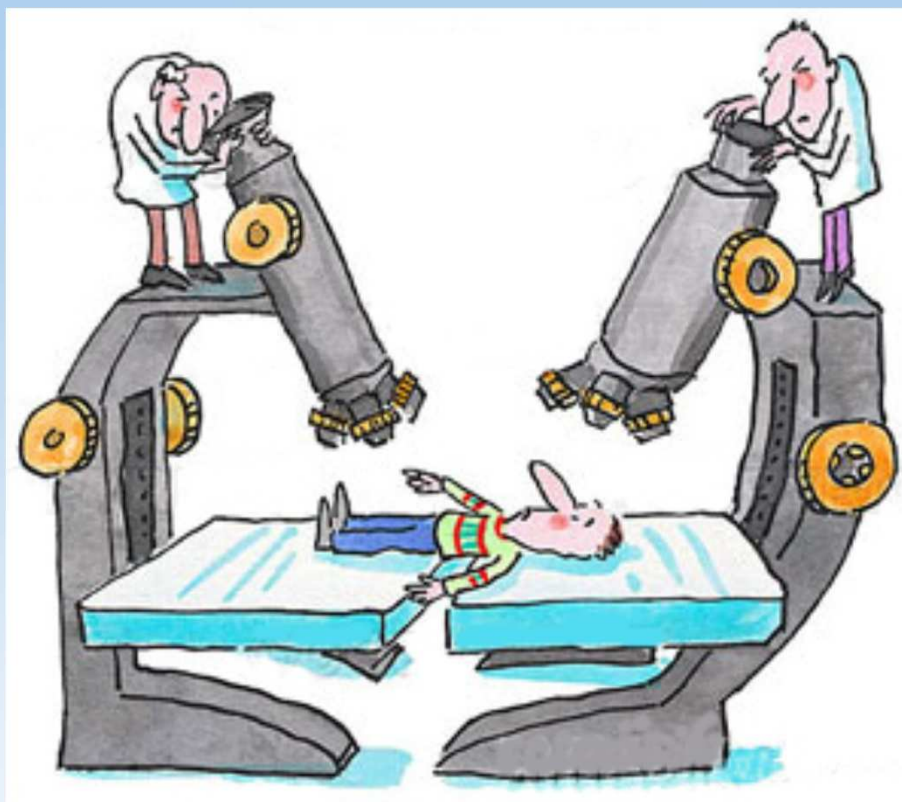
**Allows Meopta to remain at the forefront of the latest developments in the fields of precision optics and mechanics.**

- **Palacky University of Olomouc**  
Faculty of Science, Department of Optics
- **Institute of Scientific Instruments**  
Academy of Sciences of the Czech Republic
- **Czech Technical University in Prague**
- **Technical University in Brno**
- **Institute of Physics**
- **Masaryk University**
- **Joint Laboratory of Optics**





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**Thank you for your attention**