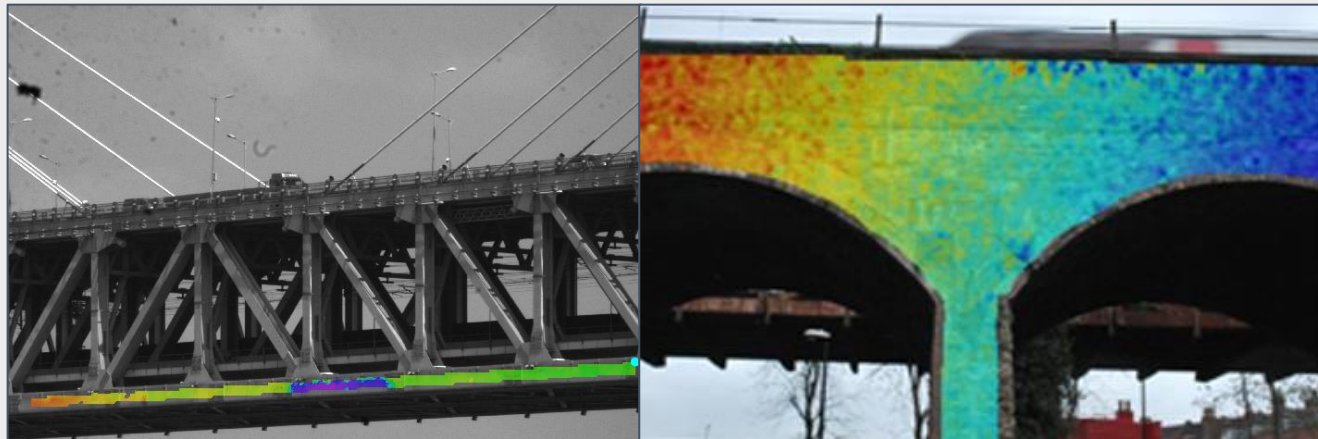
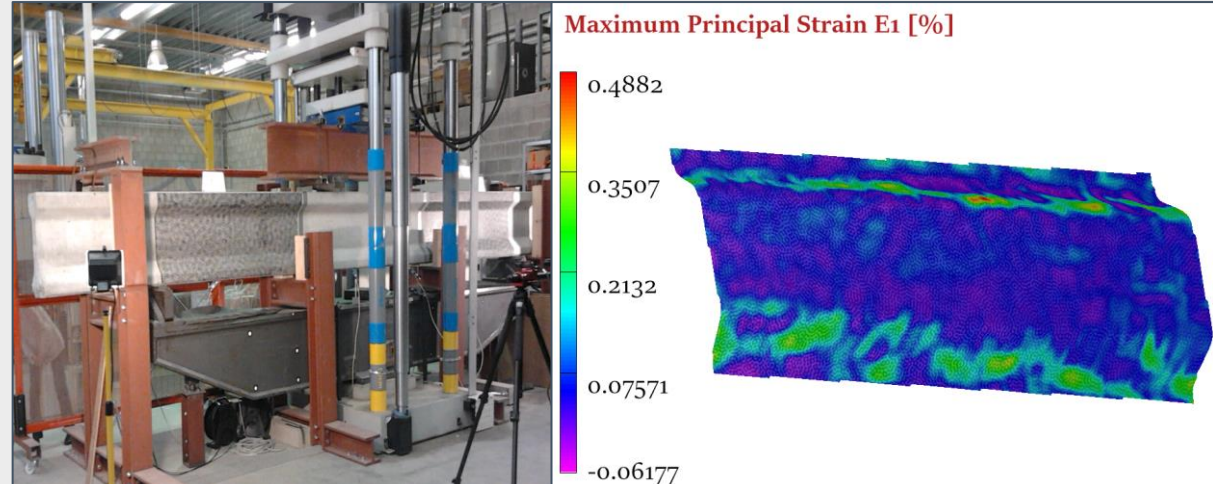
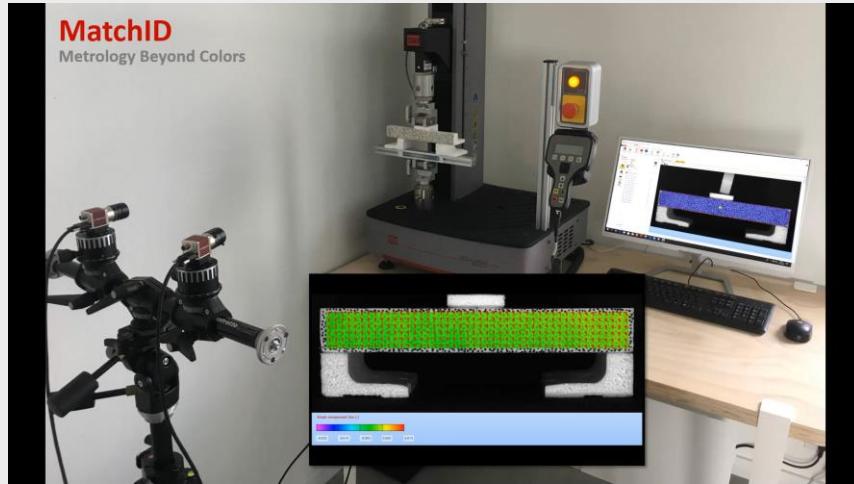


Digital image correlation to assess materials and structures

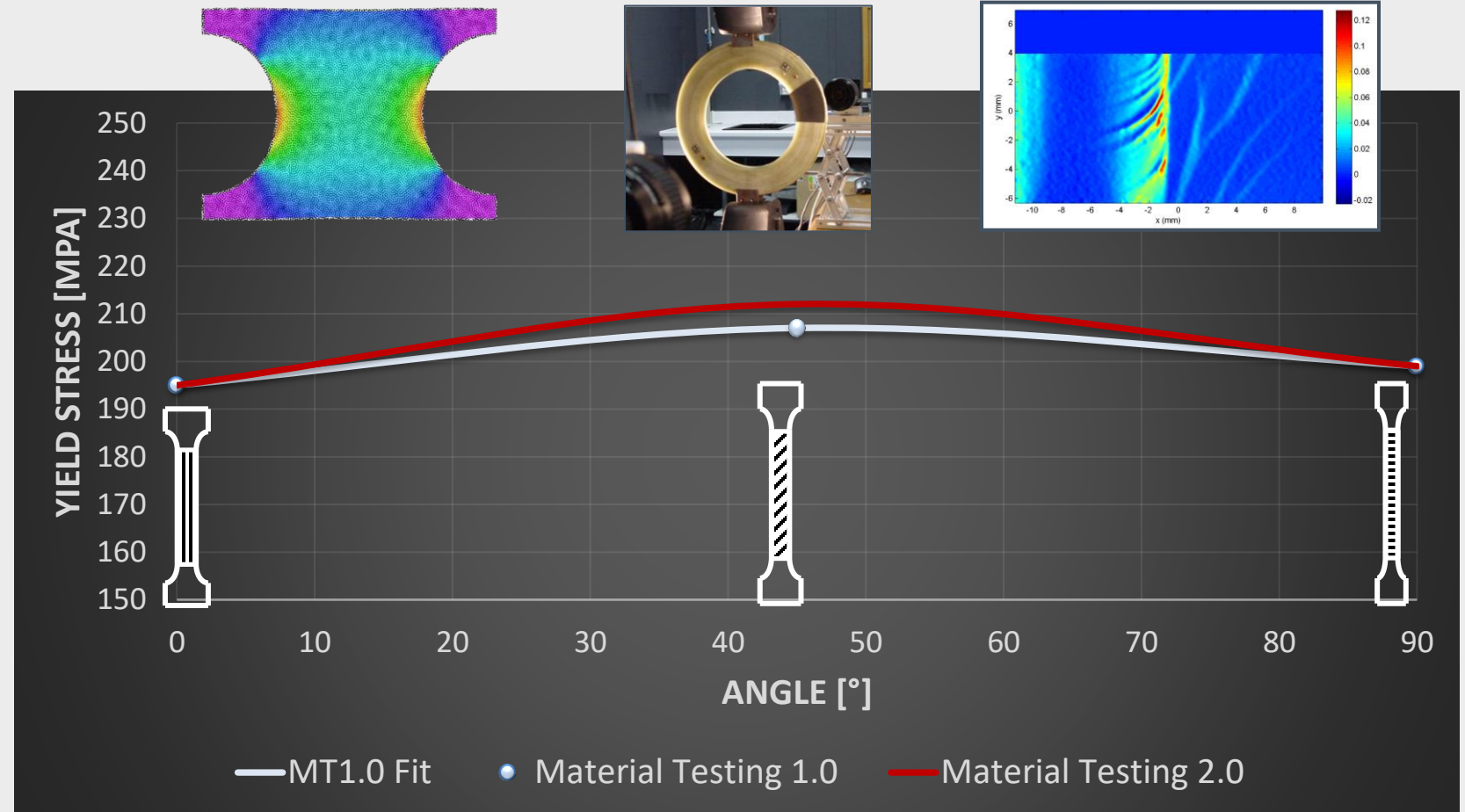
What do we do?



- Optical (non-contact)
- Full-Field
- Deformations
- Low and High-Speed
- **Material Testing 2.0**
- **Validation of Simulations**
- **Crack detection and propagation**

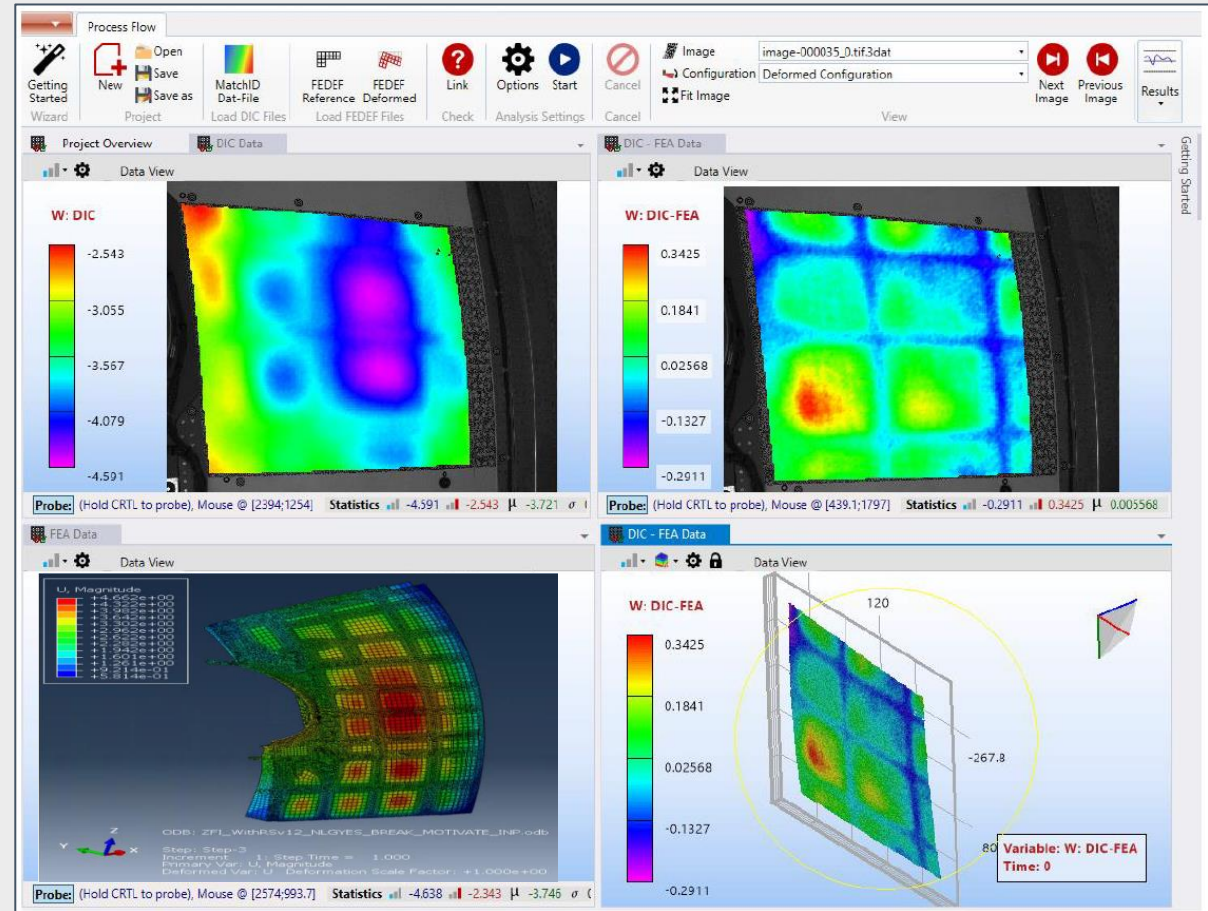
Material Testing 2.0

- Complex materials involve many parameters and tests
- Strategy to reduce number of tests
- Save testing time
- Save material usage
- More reliable properties
- Heterogeneous
- Collaboration on test design for specific materials
- Both companies and academics

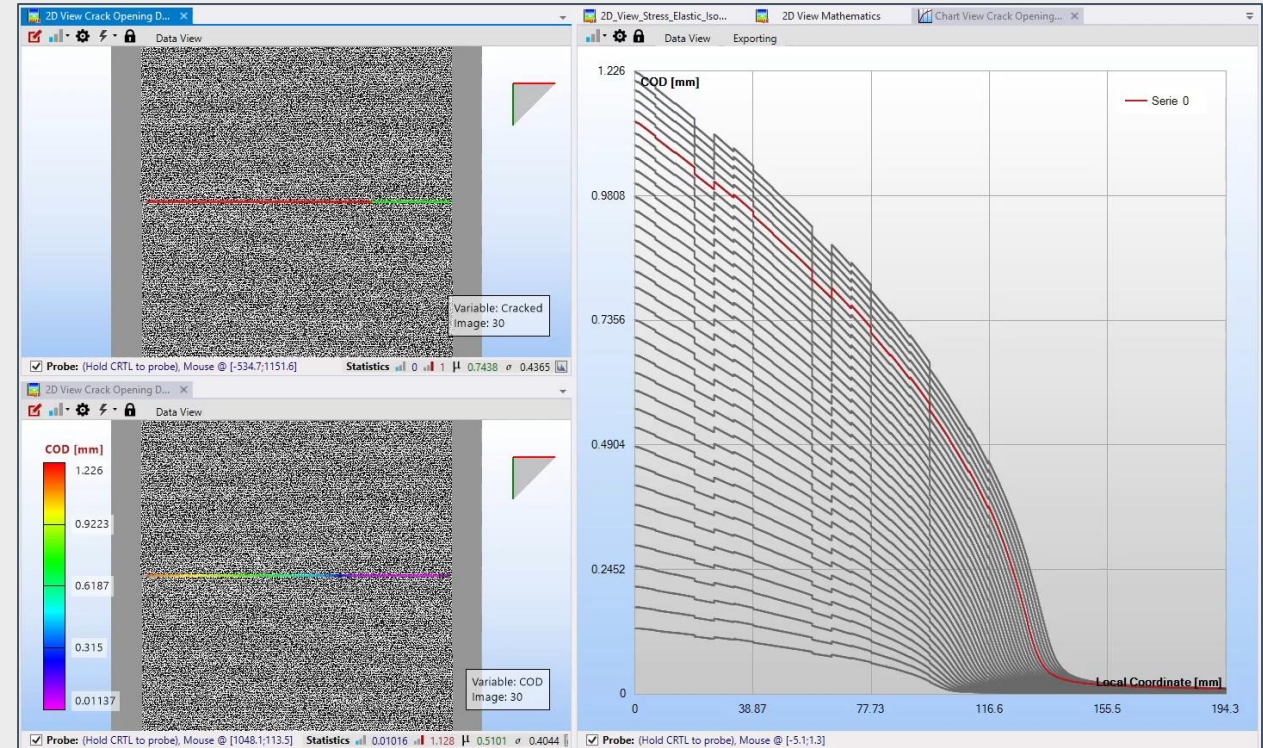
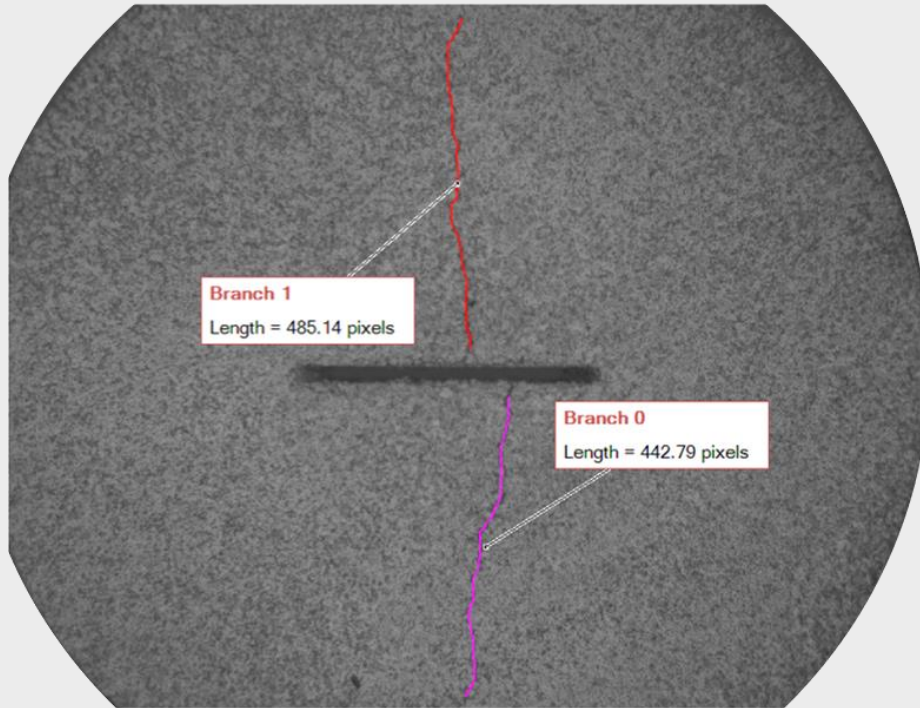


Validation of Simulations

- Is my model correct?
- Error in boundary conditions?
- Error in material properties?
- Automatic updating of simulations
- Case studies and benchmarking



Crack detection and propagation



- Automated crack-detection
- Default crack tip location determination is not precise
- Validation on materials/structures
- Further improvement of algorithms via integration of physical models

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