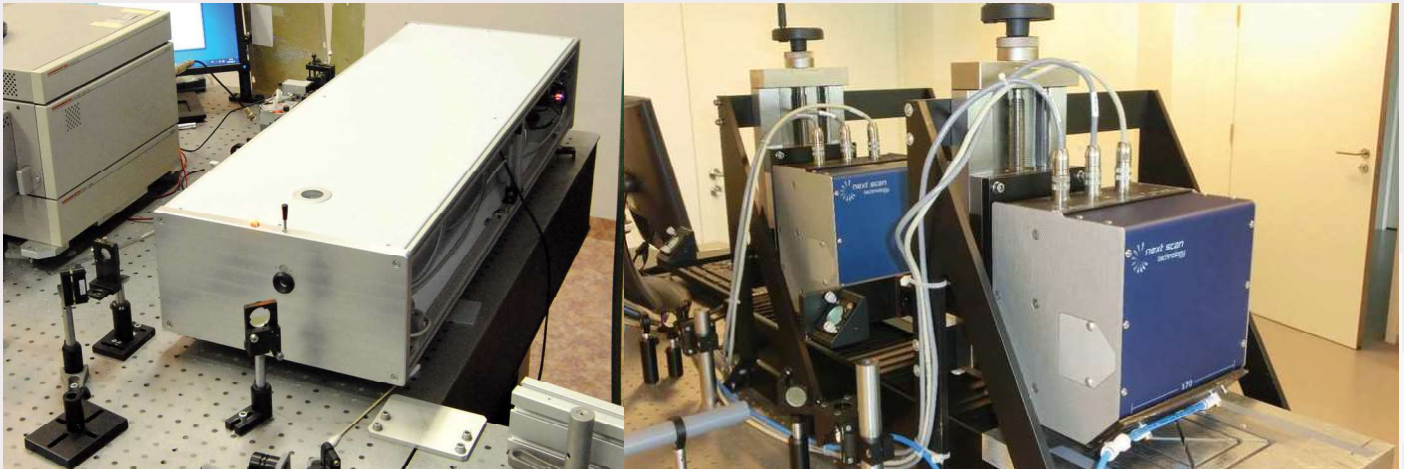


## Changing the way we design and manufacture technologies of the future



### Problem and solution

High average power, high repetition rate and ultra-short pulsed lasers are being adopted as the new workhorse in the processing of materials such as metals, glass, silicon, ceramics and thin films. EKSPLA, a laser manufacturing SME, has invested heavily in developing picosecond lasers that provide the qualities needed for industrial laser technologies and are synchronized with external devices, e.g. polygon scanners.

Next ScanTechnology (NST) has developed and introduced a polygon scanner solution that is much faster than all others. The NST patent pending technology unlocks the potential of the newest MHz pico- and femtosecond pulsed lasers as e.g. being produced by EKSPLA. The laser-based proposition of NST offers to industry reduction of manufacturing cost versus classical manufacturing approaches such as chemical processes (e.g. etching).

### How did I4MS help

The laser equipment assessment experiments in the I4MS project APPOLO enabled EKSPLA to validate their recently developed picosecond lasers for new technology areas such as thin-film photovoltaics or flexible electronics for FIAT. NST could investigate in their APPOLO experiment the applicability of their new polygon scanner for patterning of touch screen displays in consumer electronics. This technology has also proven its potential for fast growing markets like medical devices, automotive and aerospace, as laser material processing enables manufacturers to add micro features facilitating product capabilities that have not been thought of before.

### Impact

EKSPLA expects that the experiment's result will increase their turnover by more than 50% and will create more than 20 qualified specialist jobs in the next 3 years. NST hopes to sell 100's of additional scanners boosting revenues by 5+ million EUR within the next 3 years. Achieving this would support the creation of 5-10 new jobs for experienced engineers.