



Automated Inspection Tools for Cost-effective Quality Control of Optical Materials

Fact Sheet

Project Information

SAPPHIRO

Grant agreement ID: 815696

[Project website](#) 

DOI

[10.3030/815696](https://doi.org/10.3030/815696) 

Project closed

EC signature date

30 May 2018

Start date

1 April 2018

End date

30 September 2018

Funded under

INDUSTRIAL LEADERSHIP - Innovation In SMEs

Total cost

€ 71 429,00

EU contribution

€ 50 000,00

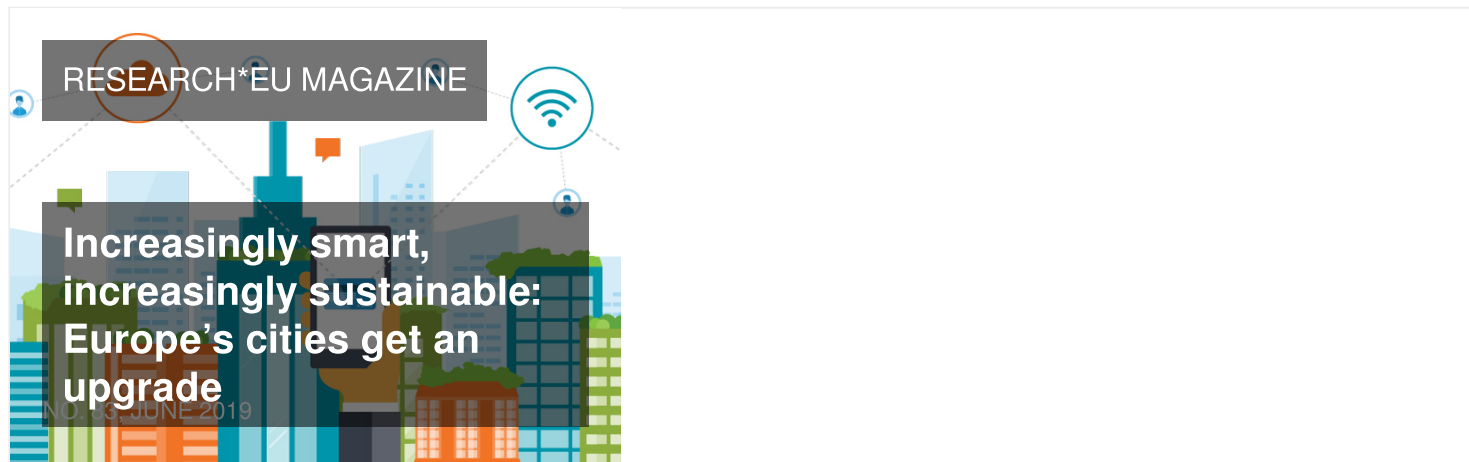
Coordinated by

SCIENTIFIC VISUAL SA



Switzerland

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Objective

Sapphire demand in 2016 was about 806 ton, while the total industrial sapphire core and wafer market has observed an annual growth rate of 12%. Moreover, silicon carbide-based power devices market is expected to grow steadily from € 143M in 2016 to € 851M in 2022. Despite the increasing demand of these crystals, quality control of such materials is based mostly on human visual inspection. Industrial crystal manufactures usually rely on operators searching for internal material flaws such as cracks or bubbles. Because of quality control being prone to human error, and taking place only at the late stages of the process, typical crystal factories are spending 0.5 to 3 days per week of potential unnecessary work. To solve this problem, Scientific Visual has developed SAPPHIRO.

SAPPHIRO's technology comprises scanning systems for automated crystal inspections, allowing to identify internal defects in crystal slices earlier. Our solution allows producers to manage quality assessment in a faster way, since the technology also provides automatic processing and sorting of inspected pieces (0.5M to 1M samples/year). SAPPHIRO's performance has proven to reach more than 96% of accurate defect identification in sapphire material and allows manufacturers process only high-quality materials, saving up to 15% of overall cost for industrial operations. Scientific Visual main goal is to implement SAPPHIRO as a worldwide standard in raw optical crystals inspection tools, whereas our disruptive technology can re-shape the synthetic growth market practices. By 2022, we target to generate € 10.5 million in revenues, while significantly reducing the current defect rate of 20% to less than 4%. This Phase 1 project will allow us to show-case our technology leading to better market understanding and new partnerships.

Fields of science (EuroSciVoc)

[engineering and technology](#) > [electrical engineering](#), [electronic engineering](#), [information engineering](#) > [electronic engineering](#) > [control systems](#)

[engineering and technology](#) > [environmental engineering](#) > [energy and fuels](#) > **[renewable energy](#)**

[natural sciences](#) > [physical sciences](#) > **[optics](#)**

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Programme(s)

[H2020-EU.2.3. - INDUSTRIAL LEADERSHIP - Innovation In SMEs](#)

MAIN PROGRAMME

[H2020-EU.3. - PRIORITY 'Societal challenges](#)

[H2020-EU.2.1. - INDUSTRIAL LEADERSHIP - Leadership in enabling and industrial technologies](#)

Topic(s)

[EIC-SMEInst-2018-2020 - SME instrument](#)

Call for proposal

[H2020-EIC-SMEInst-2018-2020](#) 

[See other projects for this call](#)

Sub call

H2020-SMEInst-2018-2020-1

Funding Scheme

[SME-1 - SME instrument phase 1](#)

Coordinator



SCIENTIFIC VISUAL SA

Net EU contribution

€ 50 000,00

Total cost

€ 71 429,00

Address

8, CHEMIN DES ALLINGES

1006 Lausanne

 **Switzerland** 

SME 

Yes

Region

Schweiz/Suisse/Svizzera > Région lémanique > Vaud

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Last update: 10 August 2022

Permalink: <https://cordis.europa.eu/project/id/815696>

European Union, 2025