



Automated Reasoning with Theories and Induction for Software Technology

Fact Sheet

Project Information

ARTIST

Grant agreement ID: 101002685

[Project website](#)

DOI

[10.3030/101002685](https://doi.org/10.3030/101002685)

EC signature date

18 December 2020

Start date

1 July 2021

End date

30 June 2026

Funded under

EXCELLENT SCIENCE - European Research Council (ERC)

Total cost

€ 2 000 000,00

EU contribution

€ 2 000 000,00

Coordinated by

TECHNISCHE UNIVERSITÄT
WIEN

 Austria

Project description

A mathematical approach for reliable software engineering

Software technologies are used everywhere nowadays, but they are still prone to errors and burden digital society, organisations and industries. Reliability is therefore an urgent necessity in this field. The EU-funded ARTIST project will create an alternative, math-based approach to solve challenges of software failures. The project aims to achieve this through a high-gain/high-risk approach based on first-order theorem proving to both prove and generate software properties that imply the absence of program errors at intermediate program steps. Extended with datatype-specific reasoning, the project results will bring software-supported methods and automated tools to prove correctness, safety and security of other software systems.

Fields of science (EuroSciVoc)

[natural sciences](#) > [computer and information sciences](#) > **[software](#)**

[social sciences](#) > [sociology](#) > [industrial relations](#) > **[automation](#)**



Keywords

[Formal methods](#)

[automated reasoning](#)

[first-order theorem proving](#)

[formal verification](#)

[formal methods](#)

Programme(s)

[H2020-EU.1.1. - EXCELLENT SCIENCE - European Research Council \(ERC\)](#)

MAIN PROGRAMME

Topic(s)

[ERC-2020-COG - ERC CONSOLIDATOR GRANTS](#)

Call for proposal

[ERC-2020-COG](#)

[See other projects for this call](#)

Funding Scheme

[ERC-COG - Consolidator Grant](#)

Host institution



TECHNISCHE UNIVERSITAET WIEN

Net EU contribution

€ 2 000 000,00

Total cost

€ 2 000 000,00

Address

KARLSPLATZ 13

1040 Wien

 **Austria** 

Region

Ostösterreich > Wien > Wien

Activity type

Higher or Secondary Education Establishments

Links

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

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

[HORIZON collaboration network](#) 

Beneficiaries (1)



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European Union, 2025

