

# EuroProofNet

WG2 October 2022 report

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Online

## WG2: Automated Theorem Provers

- ▶ Promote the output of detailed, checkable proofs from automated theorem provers
- ▶ 114 members (24 female, 7 undisclosed, 52 young researchers, 21 ITC)
- ▶ Until today: Pascal Fontaine (leader), Alex Steen (vice-leader)
- ▶ Starting today: Alex Steen (leader), Pascal Fontaine (vice-leader)

### Deliverable D3 (Month 18)

- ▶ Inventory of automated theorem provers producing proofs, description of proof formats, and inventory of checking tools for these proof formats
- ▶ <https://github.com/EuroProofNet/ATP/wiki>

### Deliverable D4 (Month 40)

- ▶ Software for translating proof formats used by automated theorem provers to Dedukti

## Past activities

- ▶ WG2 Kickoff @ FLoC: 50+ people (+10 online)
  - ▶ 1 hour talks + discussions: Dedukti, FOL ATP proofs, SMT proofs
- ▶ VTSA 2022 (WG2/WG3):

<b>Frédéric Blanqui</b>	Interoperability of proof systems
Carsten Fuhs	Automated Termination and Complexity Analysis of Programs
André Platzer	Logic of Autonomous Dynamical Systems
Philipp Rümmer	Solving Constraints with Complex String Operations
Martina Seidl	Reasoning with Quantified Boolean Formulas
- ▶ STSMs (among many, a few particularly relevant to WG2/EPN) :
  - ▶ Steen visited Fontaine: inventory of tools and formats
  - ▶ Suttcliffe visited Steen and Fontaine (unfunded): proofs for FOL ATP
  - ▶ Fontaine visited Barbosa (unfunded): proofs for SMT

## Future activities

- ▶ Completion of inventory, advertisement of the Action and our activities
- ▶ TPTPTP on proofs
- ▶ More STSMs!
- ▶ Hackathon on ATP and Dedukti

- ▶ EuroProofNet has a significant positive influence on the direction of research in ATP towards EPN goals
- ▶ Progress towards our ambitious objectives is clear
- ▶ Objectives will be met!