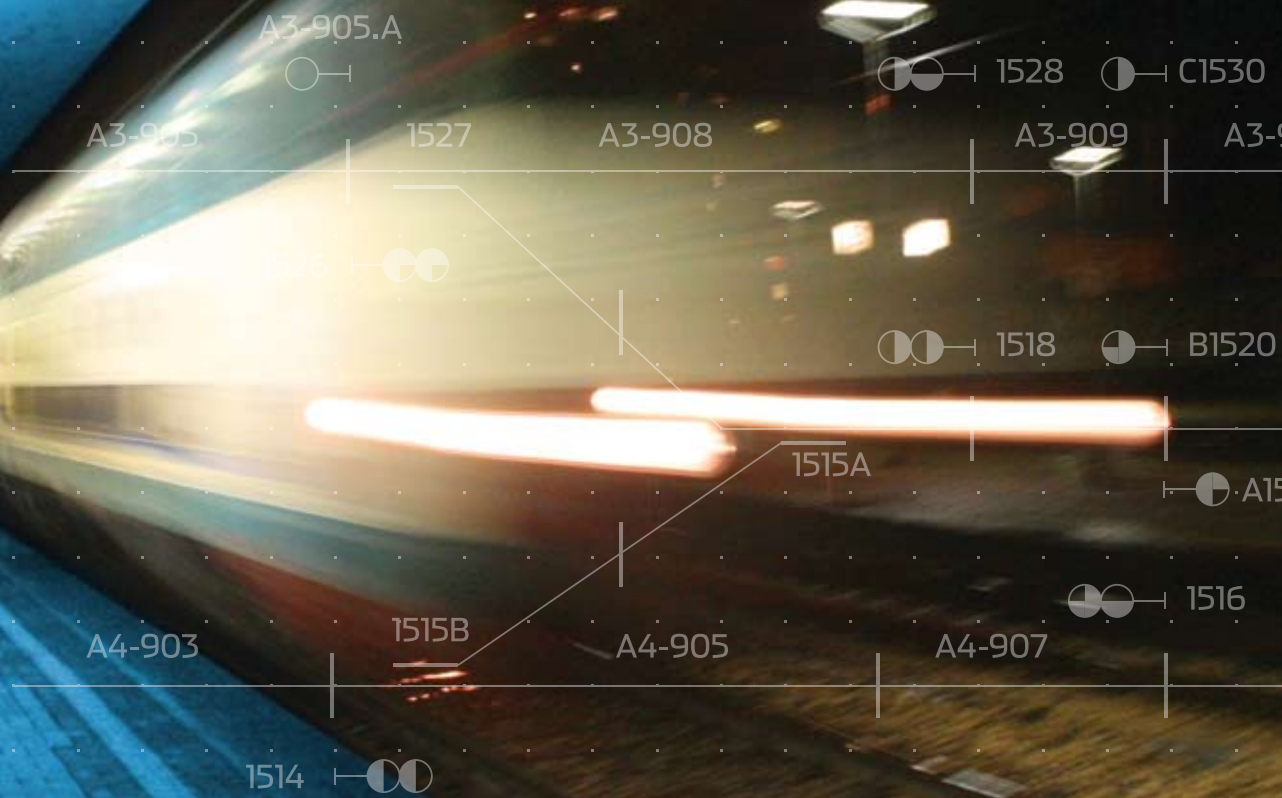


PROVER®

打造一个更加安全的世界™

Prover® Technology

提供安全、快捷、低成本的控制和信号工程的软件和服务



Prover Technology

打造一个更加安全的世界

航空、货车和汽车运输依赖石油并污染环境。铁路运输快捷、经济、环保且安全。Prover科技公司致力于为此贡献我们的力量，为快速发展的铁路业提供工程软件。

我们的PiSPEC™ 和Prover iLock™解决方案用于对包括联锁、CBTC、ERTMS、ATP 和 PTC在内的多种系统进行说明、编码、模拟和形式验证。同时，我们还向客户提供通成本合理、满足严格认证要求所必需的IP软件和培训。

Founded in 1989, Prover is headquartered in Sweden with subsidiaries in the USA and France. The company is privately owned by investors and staff, and has customers in more than 25 countries. The two solutions provided through turn-key services or licensing are:

- 1)形式说明语言PiSPEC
- 2)集成工程软件包Prover iLock

两种解决方案共同为运营商、提供商和咨询顾问带来诸多益处：



安全

通过形式安全校验的使用消除了安全和运营的错误



速度

可靠的按钮操作，买得起的安全控制和信号应用



节约

过程自动化节约了90%以上的应用工程和试验成本

Training and Certification

Prover provides training and certification programs for signaling engineers that enable suppliers, consultants and operators to realize the benefits of Prover iLock and PiSPEC. The basic one-week Application Engineering course teaches engineers how to use the Prover iLock software suite to design, simulate and formally verify signaling applications. The advanced three-week Specification Engineering course teaches engineers how to write PiSPEC specifications. Upon completion of training sessions

and exams, Prover issues a competency certificate. Prover also provides university accredited training courses in collaboration with Banskolan, the educational body of Banverket (Swedish National Rail).

Customers

Prover has a solid and loyal customer base and success stories in more than 25 countries around the world.

ABB

Banverket (Swedish National Rail)

Bombardier

CSEE

Esterel Technologies

General Electric

Jernbaneverket (Norwegian National Rail)

New York City Transit

RATP (Paris Metro)

Rockwell

SL (Stockholm Metro)

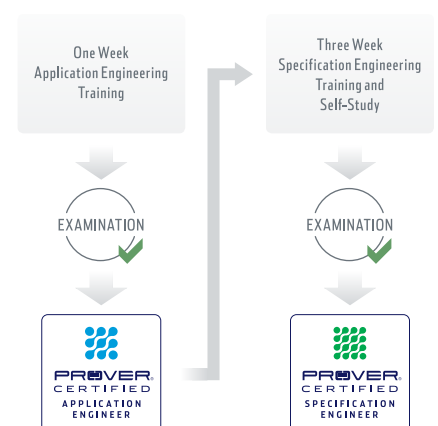
Technicom

Thales/Alcatel

The Mathworks

Union Switch & Signal

CERTIFICATION PROGRAM



Solutions for the Entire Engineering Process

Safety and Test Specification

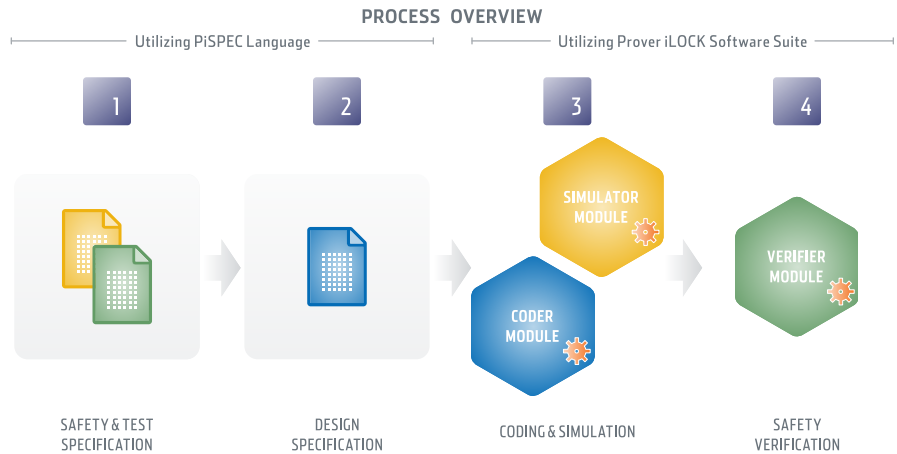
1 Prover has created PiSPEC: a dedicated language for writing re-useable, formal and non-ambiguous rail control and signaling specifications. PiSPEC enables operators and suppliers to augment their plain English specifications (that are often easy to read, but also contain errors, ambiguities, and inconsistencies) with corresponding formal specifications. These formal specifications can be developed by Prover as a service, or in-house engineering staff after completing a training course. The formal specifications bring several benefits:

- Improved operator-supplier relationship and communications: everyone knows what is expected, and the specifications are analyzed for consistency and correctness prior to project start.
- Automated generation of speed, control, and route locking tables.

Design Specification

2 PiSPEC is also used to capture design requirements in the design phase. A PiSPEC design specification brings several benefits

- Push-button generation or import of application code and relay schematics
- Unambiguous generic specification of design details



Coding and Simulation

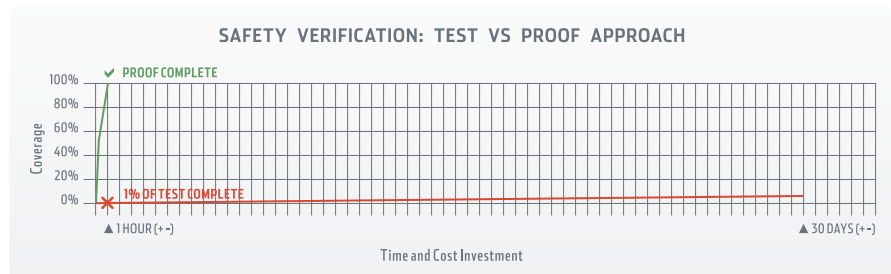
3 Prover iLock enables an operator or supplier to automate signaling application coding and simulation. These two steps in the process are often time consuming, repetitive and error prone. With Prover iLock, all the engineer needs to do is load his PiSPEC libraries, draw a layout of his system, and push a button. Prover iLock does the rest. The entire process takes a few man-hours in total for a medium size station, realizing:

- Coding and testing time reduced by more than 90%
- 100% consistent code

Safety Verification

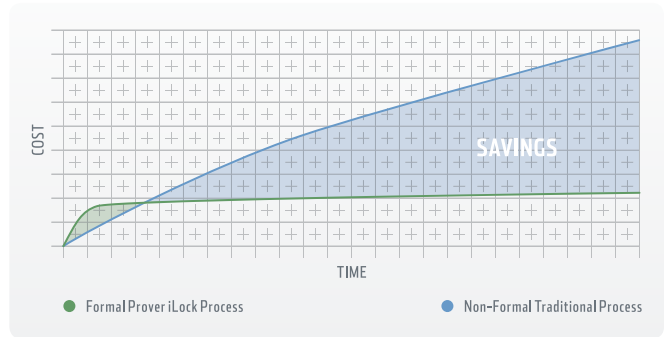
4 Prover is the leader in formal safety verification. Formal verification is required by several operators in Europe and USA, and strongly recommended by CENELEC, the European standard for control and signaling engineering. Formal verification can be used either by a system supplier to verify safety, or by an operator to perform independent safety assessment. Formal verification brings

- Dramatically improved system up-time, quality and coverage compared to testing and simulation
- Reduction in certification costs for safety critical systems (CENELEC SIL-4 or similar)



Reduce Engineering Costs

The diagram to the right illustrates the engineering cost reduction that comes from basing a process on PiSPEC and Prover iLock. There is an up-front effort associated with creating a formal PiSPEC specification, but after that the cost is minimal and the process is largely automated. In addition, there are cost reductions from improved quality and reliability.



Prover provides software products and services for development of control and signaling systems. The company was founded in 1989 and is privately held. It is headquartered in Stockholm, Sweden with wholly owned subsidiaries in France and the USA.

Prover's customer base includes Airbus, Ansaldo, Bombardier, New York City Transit, RATP (Paris Metro), Swedish National Rail, Thales and many others.

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