

Examples

Hardware design (VHDL, Verilog)

- ✓ Used by semi-conductor companies such as Intel

Critical embedded software (B/Z, Lustre/Esterel)

- ✓ Urban Transportation
(METEOR Metro Line 14 in Paris by Alstom)
- ✓ Rail transportation (Eurostar)
- ✓ Aeronautic (Airbus, Eurocopter, Dassault)
- ✓ Nuclear plants (Schneider Electric)

Pros and cons of using formal methods

- ✓ Nothing better than a mathematical proof

- ➔ A code “proven safe” is safe

- ⦿ Development is time and effort (and so money) consuming

- ➔ Should be motivated by the risk analysis

- ⦿ Do not prevent from specification bugs

- ➔ Example of network protocols