# SECURITY BUILINGS WITH TIMBER AND BIOBASED MATERIALS

COUNTRY:

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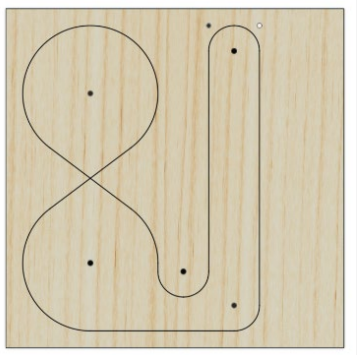
**Development of a Swedish prison with replacing fossil-based and carbon-intensive materials with bio-based alternatives. We assessed technical solutions to ensure compliance with requirements but also environmental impacts and market.**

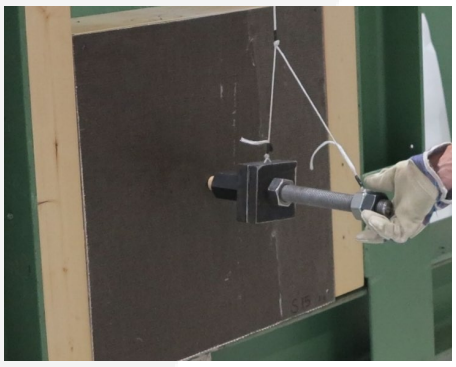
## RESULTS & CHALLENGES

**Why:** There is a need of new prisons in Sweden and high-risk public buildings are still constructed using carbon-intensive materials and need to reduce their impact.

**Main results**: It is possible to design a timber building with biobased constructions that can meet stringent requirements but also adapt to specific demands.

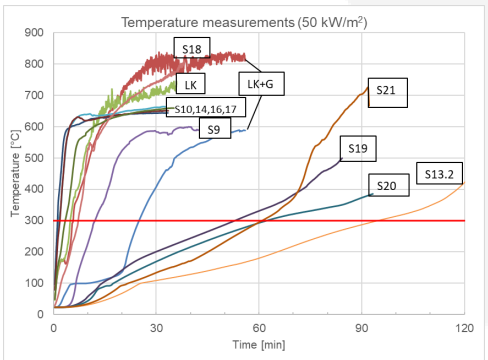


Custom-designed tests



New innovative materials

Bio-based security door




Promising fire resistance

The beneficiaries are owners and developers of security-focused buildings aiming to lower climate impact and reliance on limited material supply chains.

**Key challenges for discussion**.

- The high cost and limited accessibility of novel innovative material solutions.
- Strategies for transforming the market to facilitate easier procurement and design of sustainable alternatives, while encouraging the advancement of bio-based business models.

**Website:** [Security buildings using timber and bio-based materials 2.0 | RISE](https://www.ri.se/en/construction/wood-technology/project/security-buildings-using-timber-and-bio-based-materials-20)
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