

## Enabling full automation with a SiLA-enabled lab refrigerator

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### Abstract Introduction

Laboratory automation with robotics often stops short of full automation, since common lab devices such as fridges are designed for human use.

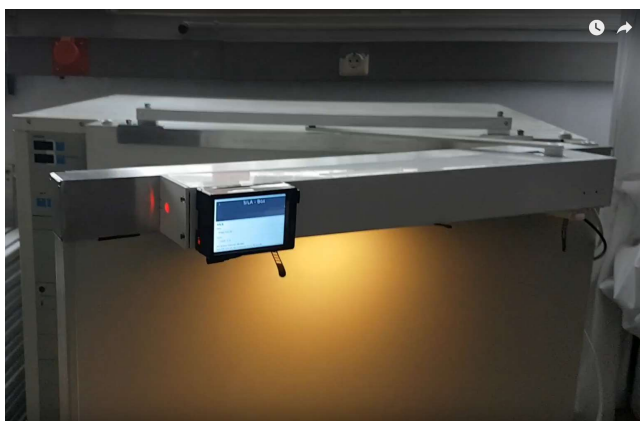
Thanks to the SiLA 2 standard, it is now possible to adapt these devices and with the addition of suitable hardware.

### Technology description

The fridge controller uses a compact SiLABOX based on an off-the-shelf Raspberry Pi controller, running LINUX together with an adapted open source SiLA 2 driver and a custom motor controller. The controller also includes front panel buttons for manual override.

The SiLA-enabled device can be controlled via Wi-Fi from a laptop running a SiLA-compatible browser such as that available from UniteLabs. (see products and drivers page on <https://sila-standard.com/product-store/>)

The system was adapted to operate a full-sized incubator which would otherwise require manual operation.



SiLA enabled incubator



Open fridge using SiLA via browser on laptop



Place sample into fridge



Close fridge using SiLA interface



Still from demo video sequence showing automated fridge opening from laptop & placement of sample.

APPLICATION NOTE

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### Application Highlights

#### Biotech lab user

- Robot-ready lab devices
- Flexibility in communication via SiLA standard

#### Technology supplier

- Rapid development thanks to SiLA community
- Solution scalable to other lab devices
- Easy debugging