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3D Printing in a Public Educational Makerspace
The Polytechnical Workshop at NTK
A case study of actual equipment use

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3rd European Meeting on3D Printing and Additive Manufacturing

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The Polytechnical Workshop at NTK

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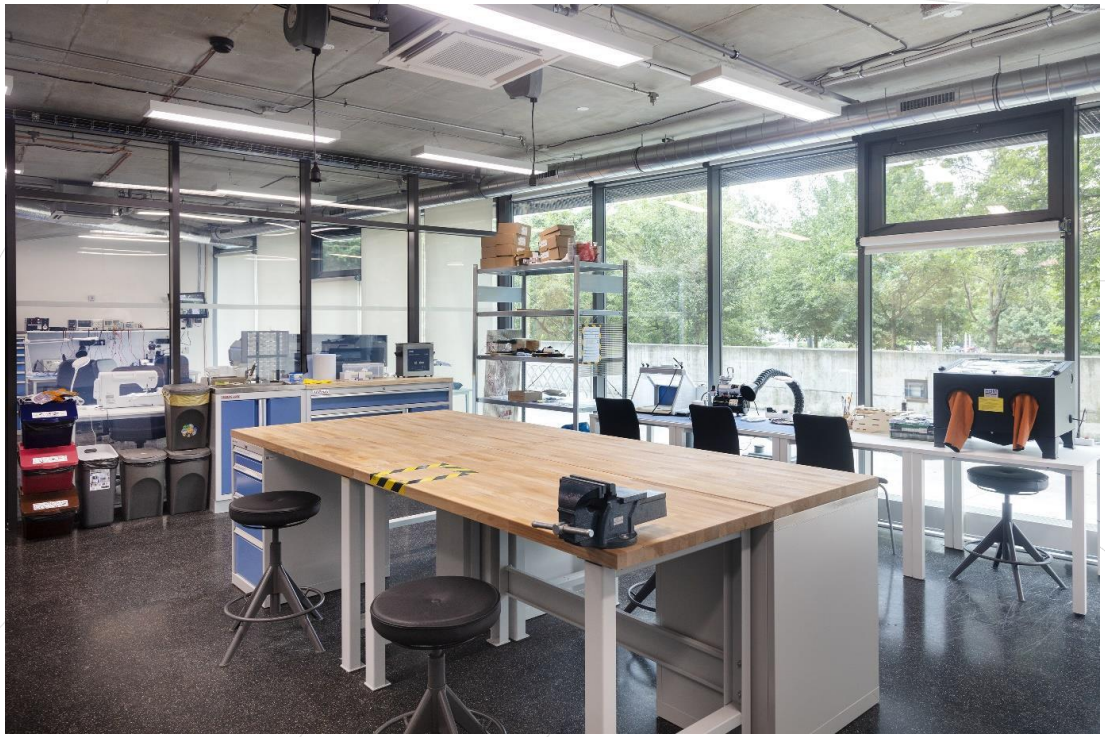
Public pilot operating since December 2024

Electronics, Machining, 3D Printing, Modeling

Free access for registered users



From information to making

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Technical libraries can provide access to manufacturing equipment, not only literature.

Open workshops bring together users with different experience and needs.

Operational data can show how equipment is actually reserved.

3D printing: available equipment

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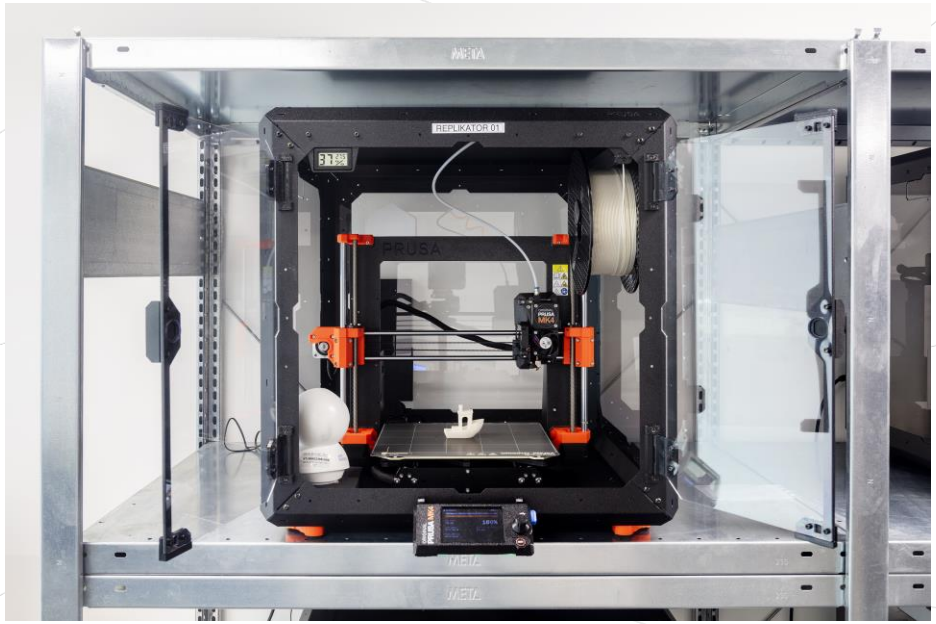
5 FDM printers from Prusa

4 standard MK4

1 XL dual head



2 SLS printers from Prusa

Research questions

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Who uses 3D Printing facilities?

Do Students and General Public select different technologies?

How does use vary by age and frequency?

Which materials and applications are represented?

Dataset and approach

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5,667	2,801	496/224
All worshop reservations	3D printer reservations	Unique Users

Dataset from January 2025-August 2026

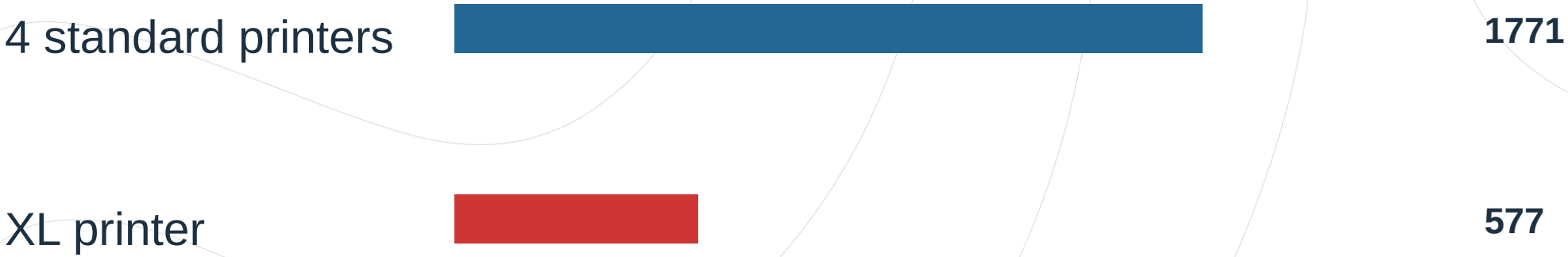
Reservation level equipment demand vs. user level demographics

Student vs. General Public (including employees and teachers)

FDM dominates reservation demand

FDM 83.8% | SLS 16.2% of 2,801 reservations

Within FDM: standard printers and XL



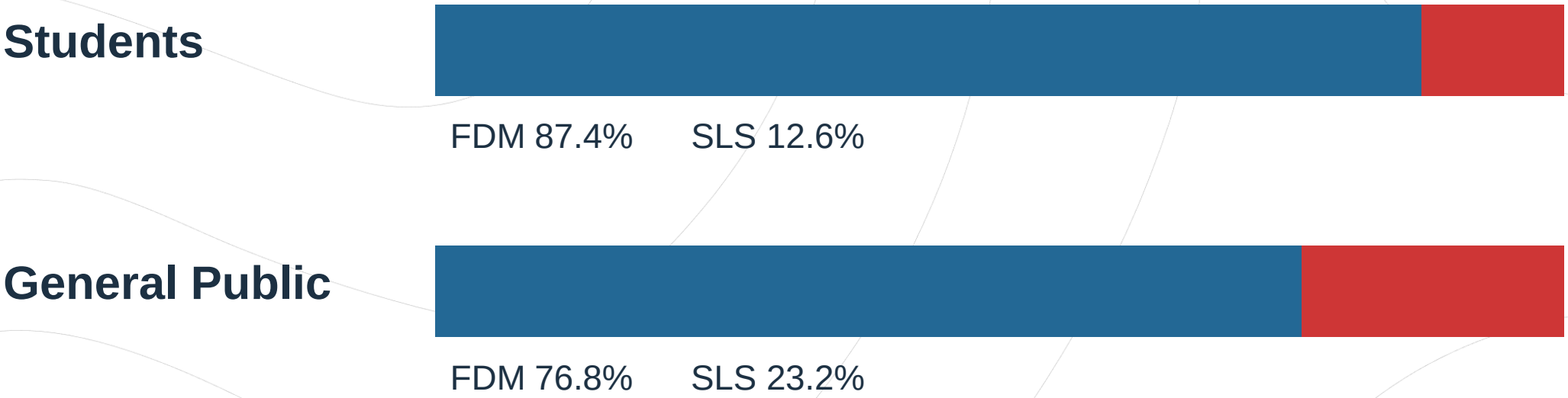
75.4% standard | 24.6% XL of FDM reservations

Who uses the printers?

Students 72.7% | General Public 27.3%

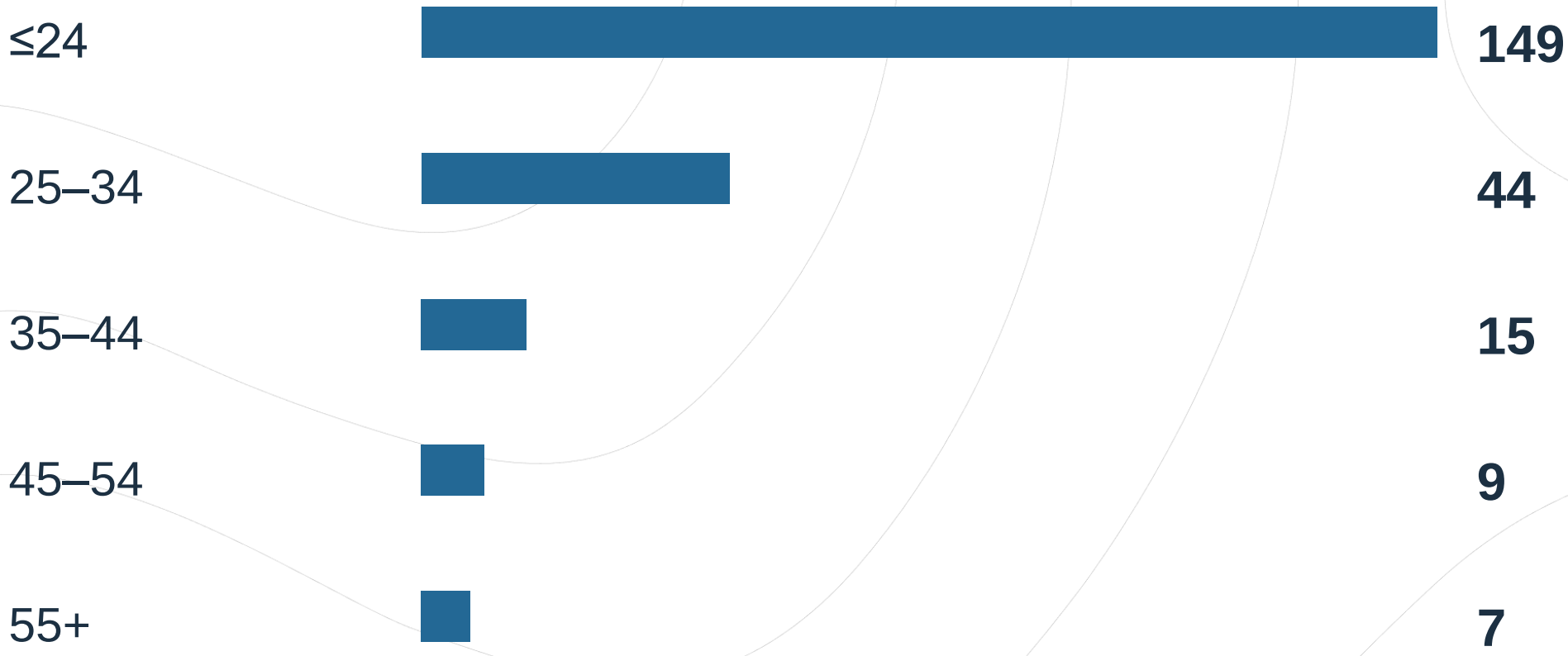
9

Technology choice differs by user group



General Public selected SLS proportionally more often (23.2% vs 12.6%).

Age profile of unique users



Median age: 23 years | Age available for 224 users

A small group generates most reservations

71

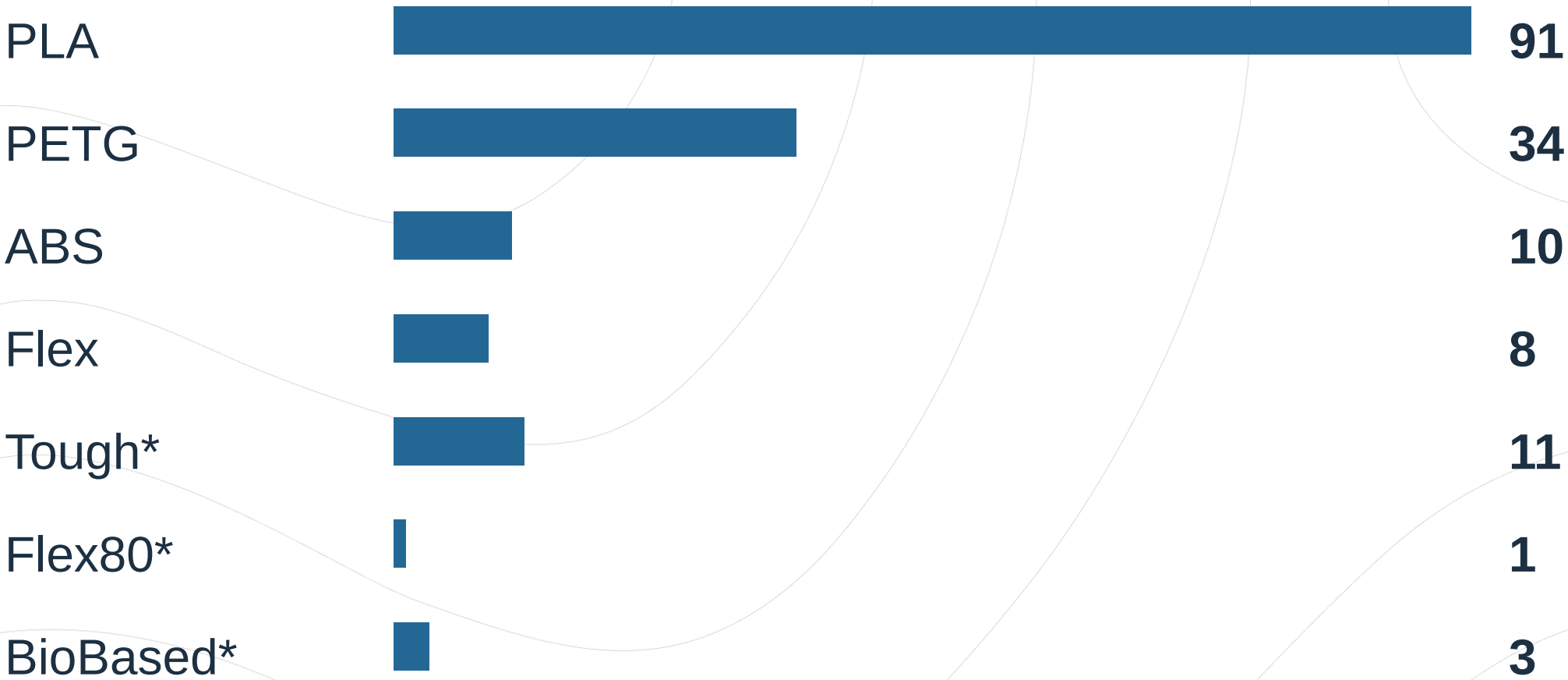
users with ≥10 reservations

79.9%

of all 3D-printer reservations

- Median: 5.5 reservations per user
- Most active user: 167 reservations
- Both occasional access and repeat use matter
- Some frequent user Students often make projects for their classmates

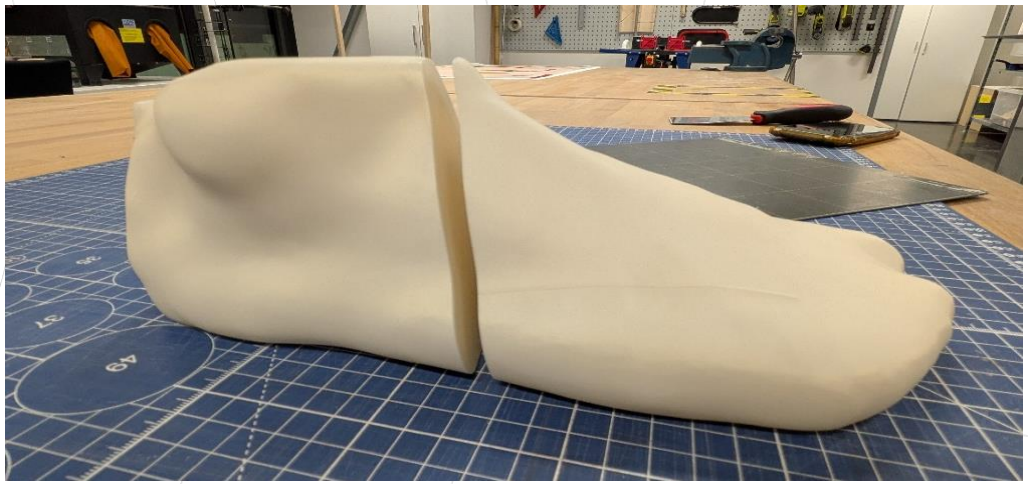
Materials used in the workshop



Reported consumption in kg (from January 2025 to August 2026)

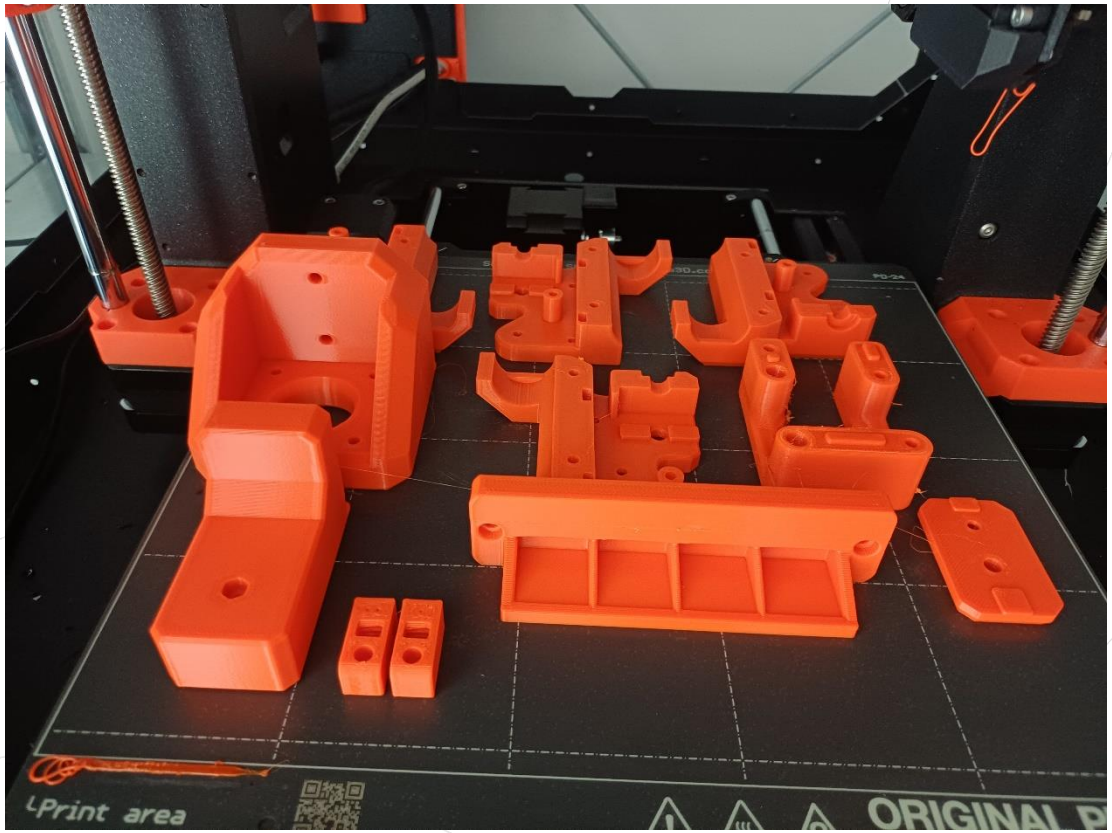
Real projects: Student work

Architectural model (PLA)

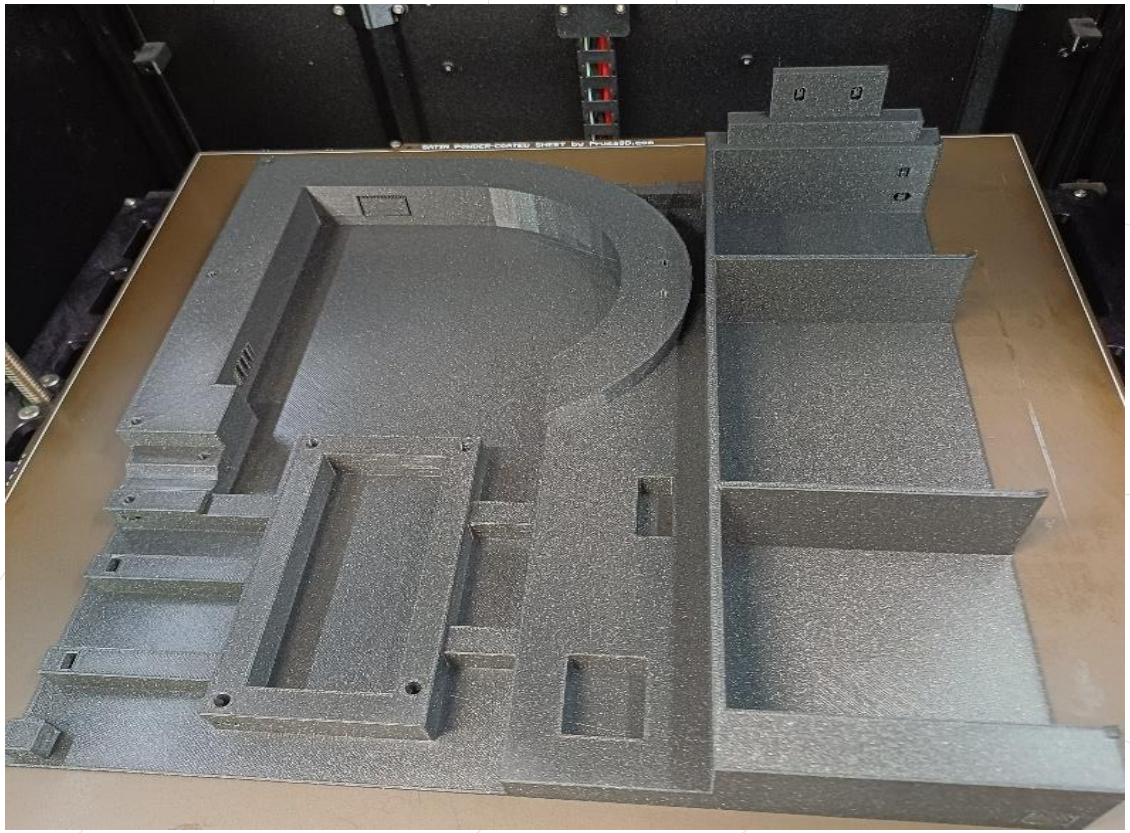


Barefoot shoe design (Flex / PLA)

Real projects: Student work



Electrical housing (PETG) ·



Computer case (PLA)

Real projects: General Public work

Prefabricated mold for casting a bust·(PLA)

Drinking glass (clear resin)

What do the data tell us?

- Reservations and unique users measure different aspects of success.
- The same facility serves occasional users and highly active regulars.
- User groups differ in observed technology selection.
- Capacity, materials, training and support should serve both patterns.

Conclusions

An open makerspace is more than a collection of machines.

- Track participation alongside reservation intensity.
- Keep specialized equipment accessible without losing entry level access.
- A technical library can support practical manufacturing and learning.

Thank you

Questions & discussion

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