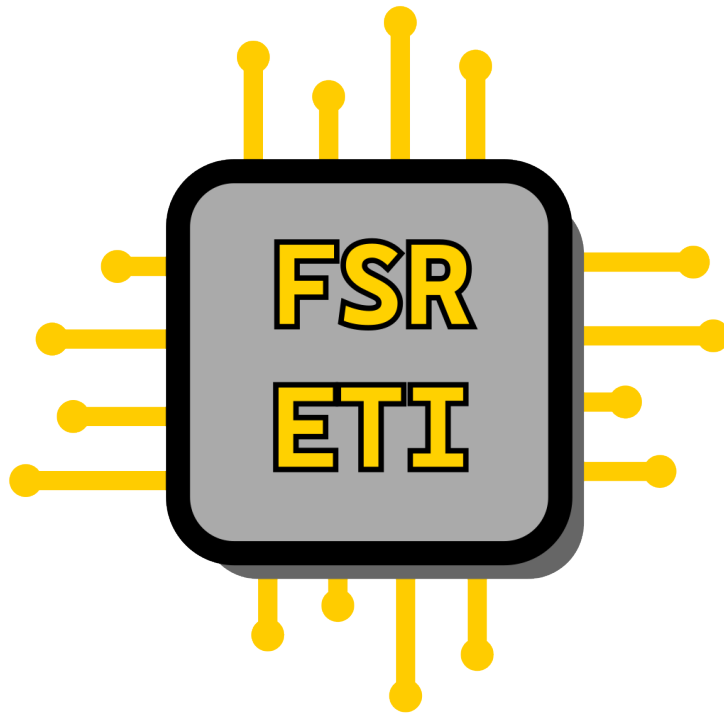




Sitzungsprotokoll

Datum: 14. Juni 2024

Beginn: 13:00 Uhr

Ende: 15:00 Uhr

Beschlussfähig: Ja

Protokollant: Jan Schweitzer

Stand: 14. Juni 2024

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1 Finanzielles

1.1 Kooperation Elab

Wir haben vom E-Lab eine Liste von potenziellen Geräten und Maschinen erhalten. Die detaillierte PDF ist im Anhang dieses Dokumentes beigelegt. Es geht um eine CNC-Maschine, eine Pick-and-Place Maschine und optional um eine Kaffeemaschine. Daher halten wir ein Budget von bis zu 7000€ als eine sinnvolle Investition.

1.2 Eigener Server

Eine weitere Investition ist ein eigener Server im Büro. Dies wurde seit langem Besprochen und soll nun endlich umgesetzt werden. Für eine langfristige Lösung ist ein Budget von ca 5000€ angesetzt.

2 Nächste Fachschaftsvollversammlung

Die nächste Fachschaftsvollversammlung (FVV) soll am Dienstag, den 25.06.2024 um 12 :00 Uhr stattfinden. Themen sind:

1. Verschönerung des Campus Hölderlin
2. Änderungen im Master Elektrotechnik
3. Ausgaben des FSR (Kapitel 1 Finanzielles)

Im Anschluss findet um 14:00 Uhr das Jahresgespräch von Elektrotechnik am AR-D 5104 statt .

3 Schlüssel

- Chipschlüssel sollen von nun an alle zusammen beantragt und verlängert werden. Nachfragen ob es möglich ist auch Raumschlüssel durch einen Chip-schlüssel zu ersetzen, dies würde Sicherheit vor den vielen verschwundenen Schlüsseln bieten. Dies muss bei dem Verantwortlichen der Uni beantragen
- Es wurde noch keiner gefunden, wer sich um dies kümmern kann. (Moritz zur Zeit mit einem Praktikum zu sehr beschäftigt)

4 Anwesenheitsliste

Name	Kontaktadresse	Rolle
Moritz Höfer	moritz.hoefer@student.uni-siegen.de	Gewähltes Mitglied
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Edanur Sak	edanur.sak@student.uni-siegen.de	Gewähltes Mitglied



Proposal for Purchasing a CNC Machine

Objective:

To enhance the practical learning experience of students by integrating a CNC (Computer Numerical Control) machine into the student lab. This will provide hands-on experience with modern manufacturing techniques and foster skills relevant to the engineering and design fields.

Justification:

1. Educational Enhancement:

- **Hands-On Learning:** Provides students with the opportunity to apply theoretical knowledge in a practical setting.
- **Skill Development:** Develops technical skills in CNC programming, machine operation, and product design.
- **Industry Relevance:** Prepares students for careers in engineering, manufacturing, and design by familiarising them with industry-standard equipment.

2. Curriculum Integration:

- **Coursework:** Can be integrated into existing courses such as Manufacturing Processes, Mechanical Design, and Computer-Aided Design (CAD).
- **Projects:** Facilitates project-based learning and capstone projects that require precision machining.

3. Innovation and Research:

- **Prototyping:** Enables rapid prototyping and iterative design processes for student projects.
- **Research:** Supports research activities in materials science, mechanical engineering, and product development.

Specifications:

- **Type:** Desktop CNC Milling Machine
- **Workspace:** Minimum 300mm x 400mm x 100mm
- **Spindle Speed:** Up to 24,000 RPM
- **Software:** Compatible with popular CAD/CAM software
- **Safety Features:** Emergency stop button and user-friendly interface.
- **Cost:** Estimated \$2,000 - \$4,000

Recommendations:

1. <https://www.sorotec.de/shop/CNC-Mills/sorotec-hobby-line/sorotec-hobby-line-compl ete/>

Made in: Germany

Workspace: X 300 mm, Y 450 mm, Z 140 mm

Spindle: 800 W - 7.000 - 25.000 rpm

Cost: 2.199,00 EUR

2. https://www.conucon.de/en/openbuilds/openbuilds-lead-cnc-machine-1000x1000mm-with-stepper-motors-kit_2000084_1471

Made in: Germany (Open Source)

Workspace: X 810 mm, Y 730 mm, Z 50 mm

Spindle: Note included! (needs to be bought separately).

Cost: €1,826.70 EUR

3. <https://www.cnc-step.com/cnc-router-400x300-s-400t-ball screw/>

Made in: Germany

Workspace: X 300 mm, Y 400 mm, Z 110 mm

Spindle: Note included! (needs to be bought separately).

Cost: 3.545,01 €

4. <https://www.mekanika.io/shop/evo-3545?category=3#attr=>

Made in: Belgium (OPEN-SOURCE) **Workspace:** X 630 mm, Y 630 mm, Z 110 mm

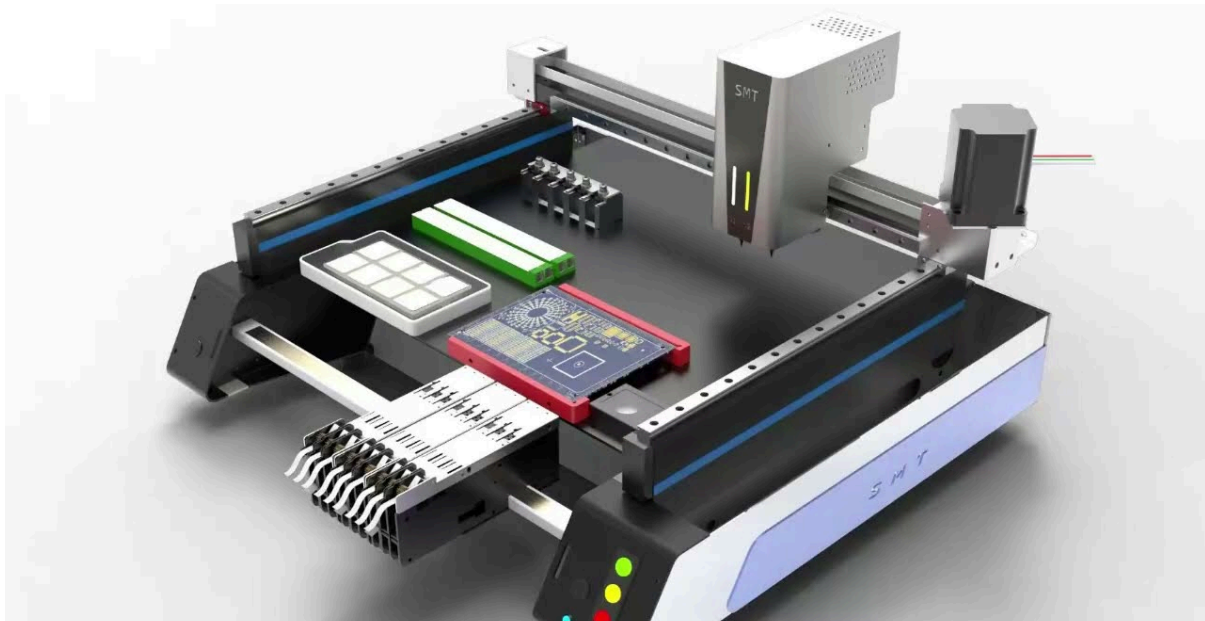
Spindle: No motor included!

Accuracy: 0.2mm

1x Probing device

1x Mekanika Touchpad interface

Cost: 2,223.14 € VAT Excluded (edited)



Proposal for Purchasing a Pick and Place Machine

Objective:

To enhance students' practical learning experience in electronics and robotics by integrating a pick and place machine into the student lab. This equipment will provide hands-on experience with automated assembly processes, crucial for modern manufacturing and electronics design.

Justification:

1. Educational Enhancement:

- **Hands-On Learning:** Allows students to translate theoretical knowledge into practical skills in automated electronics assembly.
- **Skill Development:** Develops competencies in machine programming, operation, and troubleshooting.
- **Industry Relevance:** Prepares students for careers in electronics engineering, robotics, and automated manufacturing by familiarising them with industry-standard technology.

2. Curriculum Integration:

- **Coursework:** Can be incorporated into courses such as Electronics Manufacturing, Robotics, and Automated Systems.
- **Projects:** Facilitates project-based learning, especially in the creation of printed circuit boards (PCBs) and other electronic assemblies.

3. Innovation and Research:

- **Prototyping:** Enables rapid prototyping and assembly of electronic components for student projects.

- **Research:** Supports research activities in areas such as robotics, electronics design, and manufacturing efficiency.

Specifications:

- **Type:** Desktop Pick and Place Machine
- **Component Handling:** Capable of handling components down to 0201 size
- **Placement Speed:** Minimum 5,000 components per hour
- **Accuracy:** Placement accuracy of ± 0.01 mm
- **Software:** Compatible with popular PCB design software
- **Cost:** Estimated \$ 2,000 - \$3,000

Recommendation:

<https://www.opulo.io/products/lumenpnp>

Made in: America, but open source (can be made ourselves)

Cost: 2055 €





Proposal for Purchasing a new Coffee Machine ☕

Objective:

To enhance the student lab environment by providing a coffee machine, offering free coffee to students. This aims to attract more students to the lab, creating a conducive atmosphere for collaboration, learning, and innovation.

Justification:

1. Student Attraction:

- **Increased Attendance:** Offering free coffee will make the lab more appealing, encouraging higher student turnout.
- **Community Building:** A coffee machine can serve as a social hub, fostering interaction and collaboration among students.

2. Enhanced Productivity:

- **Refreshment:** Providing coffee helps keep students alert and focused during long study or project sessions.
- **Convenience:** Saves students time by offering an on-site refreshment option, allowing them to spend more time in the lab.

3. Positive Environment:

- **Comfort:** A welcoming environment with free coffee can improve student satisfaction and overall lab experience.
- **Support:** Demonstrates the institution's commitment to student welfare and support.

Specifications:

- **Type:** Automatic Espresso Machine with Grinder
- **Capacity:** Able to serve up to 15 cups per day
- **Features:** Preferably multiple coffee options (espresso, cappuccino, latte), easy to clean, and energy-efficient
- **Cost:** Estimated \$250 - 300

Implementation Plan:

1. **Selection:** Choose a reliable and user-friendly coffee machine within budget.
2. **Installation:** Set up the machine in a central and accessible location in the student lab.
3. **Supplies:** Stock initial supplies and establish a regular restocking schedule.
4. **Maintenance:** Develop a maintenance and cleaning schedule to ensure the machine's longevity and hygiene.
5. **Promotion:** Inform students about the new coffee machine through lab announcements and social media.

Conclusion:

Introducing a coffee machine in the student lab will create a welcoming environment, boost student attendance and productivity, and foster a collaborative atmosphere. This initiative aligns with our goal of enhancing the student experience and supporting their academic journey.

1. https://www.amazon.de/-/en/Philips-EP2220-10-Automatic-Specialities/dp/B07MMSHC4R/ref=zg_bs_g_13528250031_d_sccl_3/257-1714010-9163434?psc=1

Model : Philips

Price : €249.00 EUR

2. https://www.amazon.de/-/en/Automatic-Machine-Esperto-Including-Barista/dp/B08MP3JMJ/ref=zg_bs_g_13528250031_d_sccl_42/257-1714010-9163434?th=1

Model : Tchibo

Price : €249.00 EUR

3. https://www.amazon.de/-/en/Automatic-Function-Espresso-Specialities-Anthracite/dp/B0B8J6B1YQ/ref=zg_bs_g_13528250031_d_sccl_10/257-1714010-9163434?psc=1

Model : Tchibo

Price : €254.00 EUR

4. https://www.amazon.de/-/en/Esperto2-Automatic-Machine-Function-Espresso/dp/B0BZHWT8YB/ref=zg_bs_g_13528250031_d_sccl_88/257-1714010-9163434?psc=1



Model : Tchibo
Price : €269.00 EUR