

Textile Science Research Centre (TSRC)

PROF. SANDRA BISCHOF | TSRC HEAD

PROF. TANJA PUŠIĆ | TSRC VICE-HEAD



Textile Science Research Centre (TSRC)



- ▶ Established in 2008 within the project FP7-REGPOT-2008-1: *Unlocking the Croatian Textile Research Potentials (T-Pot)*, funded by EC
- ▶ Project goal was upgrading of research capacities within the field of textile technology

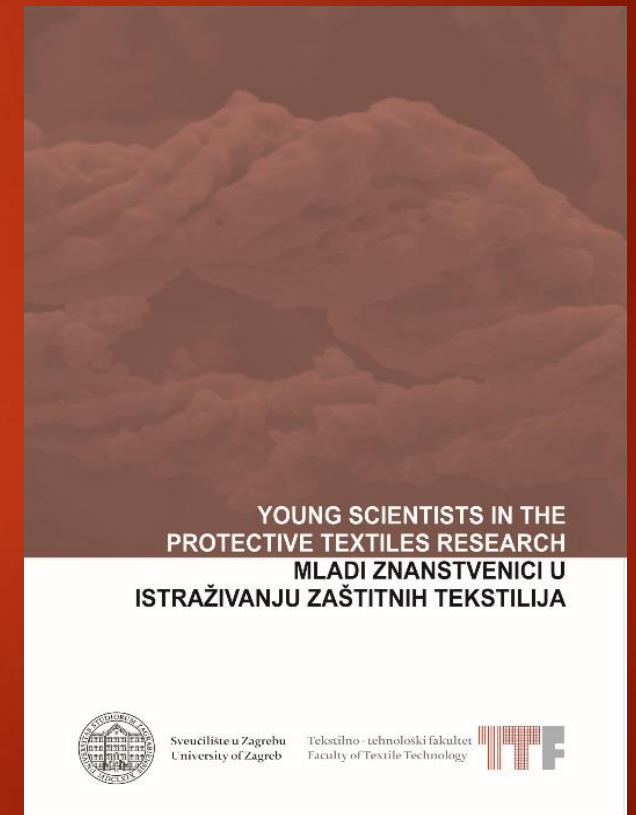
TSRC activities include:

- ▶ Promoting excellence in scientific and artistic research, and fostering research in accordance with the Faculties strategic topics;
- ▶ Improving existing co-operations and connecting with other related institutions both home and abroad;
- ▶ Creating scientific and expert reports, studies, and surveys;
- ▶ Providing consultancy work;
- ▶ Promoting innovations;
- ▶ Conducting activities to popularize science;
- ▶ Developing research infrastructure according to international standards.

Encouraging young researchers to become involved in the TSRC's activities

From 2011 Award of TSRC in 2 categories:

- Young researchers
- Students



The TSRC vision:

**Innovative
textile
materials**

**Creativity
FOR**

**Sustainable
development**

**Advanced
Technologies**

& Competitiveness

RESEARCH FOCUS

The Faculty has identified 9 topics of strategic importance in the:

Research Strategy of University of Zagreb Faculty of Textile
Technology 2014-2020

Research focus

Topics	
1	Sustainable textile raw materials
2	Advanced, sustainable and energy-efficient technologies



Research focus

Topic	
3	Advanced textile materials
4	Innovative textile solutions



Research focus

Topic	
5	The development of measurement systems and applicable methodologies
6	Creativity in Technology



Research focus

Topic	
7	Excellence in Science
8	Industrial Leadership

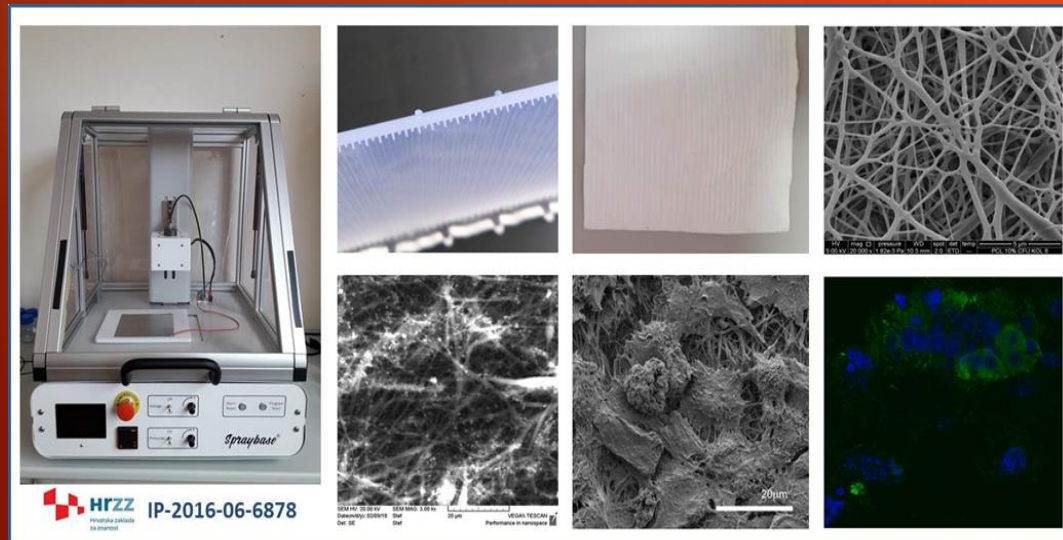
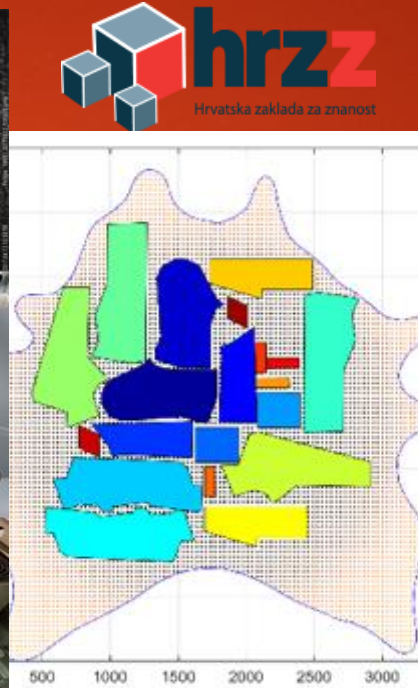
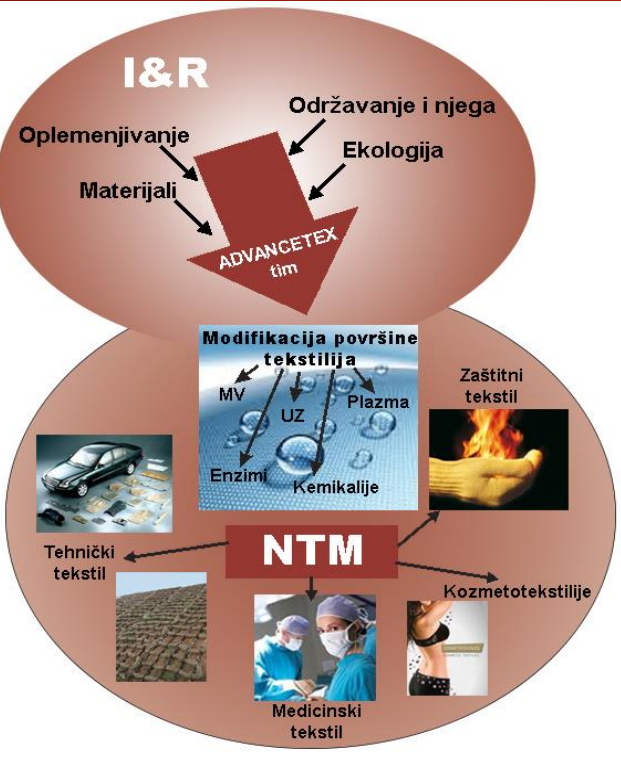


Research focus

Topic	
9	Societal challenges



National projects (Croatian science Foundation)



TTF Innovations

Innovations	No
HR – patents	15
HR – design	5
HR – trademark	3
International patents WIPO*	16



FIRE STOP FUNCTION

- > Permanente Schweißflammbarkeit
- > Feuchtigkeitaufnahme, gute hautsensitische Eigenschaften sowie Atmungsaktivität
- > Herausragender Komfort
- > Schützt und ist gleichzeitig hautsympathisch
- > EN ISO 11612
- > EN 1149-5 (3)
- > NFPA 1971

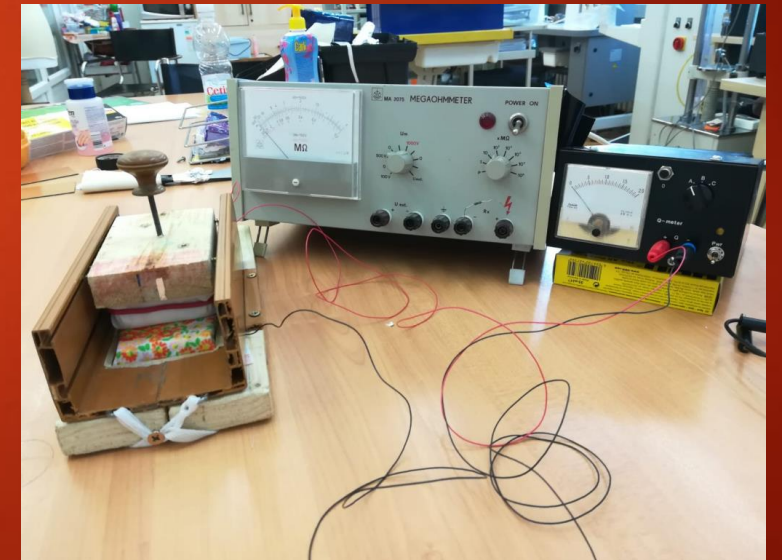
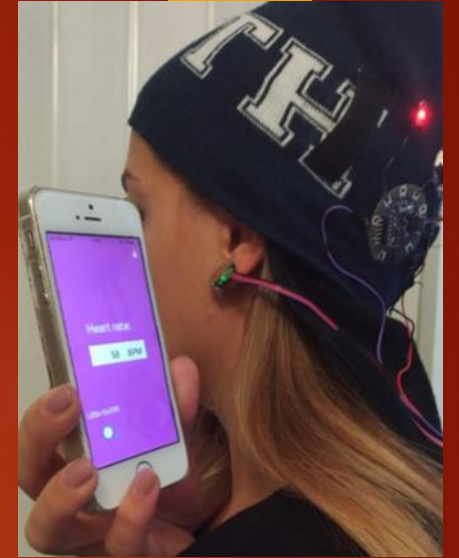
- > Permanent flame resistance
- > Moisture absorption along with breathability
- > Outstanding comfort
- > Protection from sparks and at the same time is skin-friendly
- > EN ISO 11612
- > EN 1149-5 (3)
- > NFPA 1971

- > Trajna vatrootpornost
- > Upija vlagu uz prozračnost
- > Izvanredna udobnost
- > Zaštita od iskri a u isto vrijeme ugodan za kožu
- > EN ISO 11612
- > EN 1149-5 (3)
- > NFPA 1971

EN ISO 11612

FLAME RETARDANT

Student innovations



Popularisation of science

Topics

2014. TEXTILES - ESSENTIAL LIFE COMPANION AND POWERFUL PROTECTOR

2015. ADVANCED MATERIALS AND ADVANCED TECHNOLOGIES

2016. INNOVATIVE TEXTILES – Reality or Science Fiction

2017. STEM POTENTIALS OF THE FACULTY OF TEXTILE TECHNOLOGY

2018. SCIENCE FOR CULTURE HERITAGE

16. rujna 2014.
Znanstveno-istraživački centar za tekstil - TSRC / Tehnički muzej Sveučilišta u Zagrebu, Tekstilno-tehnološki fakultet
Savska 16/9, 10000 Zagreb

[ti: es a: si: dei]

Tekstil - bitan životni suputnik i moćni zaštitnik

9:00-12:45 PREDAVANJA
14:00-16:00 TSRC promenade
Savska 16/zgrada 9

23. rujna 2015.
Znanstveno-istraživački centar za tekstil - TSRC / Tehnički muzej Sveučilišta u Zagrebu, Tekstilno-tehnološki fakultet
Savska 16/9, 10000 Zagreb

[ti: es a: si: dei]

Napredni materijali i napredne tehnologije

8.30 - 12.30 PREDAVANJA
Tehnički muzej
Savska c. 18, Zagreb

20. rujna 2017.

Znanstveno-istraživački centar za tekstil - TSRC / Tehnički muzej Nikola Tesla Sveučilište u Zagrebu, Tekstilno-tehnološki fakultet
Prilaz baruna Filipovića 28a, 10000 Zagreb

[ti: es a: si: dei]

STEM potencijali Tekstilno-tehnološkog fakulteta

8.30 - 14.00
Tehnički muzej Nikola Tesla
Savska 18, Zagreb

Znanstveno-istraživački centar za tekstil - TSRC / Tehnički muzej Nikola Tesla Sveučilište u Zagrebu, Tekstilno-tehnološki fakultet
Savska 16/9, 10000 Zagreb

INOVATIVNI TEKSTIL - stvarnost ili znanstvena fantastika

Znači! Dođi na DAN TSRC-a! Oduševit ćeš se! Vidjet ćeš inovacije u tekstilu. To ti je prava znanstvena fantastika!

Kao i svake godine, u Tehničkom muzeju Nikola Tesla. 20. rujna 2016. od 8.30 do 12.30 sati.

Idemo svi! Hvala, baš si prijatelj!

Imaš krasno inteligentno odijelo. I ja želim modernu odjeću.

Možda nešto šareno...

A gdje i kada će se održati [ti: es a: si: dei]?

Zašto si tužan?

10 TEXTILE
SCIENCE RESEARCH CENTER

Znanost za kulturnu baštinu

20. rujna 2018.

9:00-16:00

Mjesto održavanja: Tehnički muzej Nikola Tesla, mala dvorana, Savska cesta 18, Zagreb

Znanstveno-istraživački centar za tekstil - TSRC / Tehnički muzej Nikola Tesla

T S R C D A N
S C I E N C E
T E C H N O L O G Y

2008 → 2018
10 YEAR ANNIVERSARY





Further development of the TSRC is to be realised by **Modernisation of the TSRC Infrastructure (MI-TSRC) KK.01.1.1.01.0024**, a project financed by the European Regional Development Fund (ERDF).

DURATION: MAY 2018 – MAY 2020

AMOUNT: 1.5 MIL €

Work packages

WP-1

- **Reconstruction and adaptation of TSRC premises**

WP-2

- **Equipment purchase and trainings**

WP-3

- **Organisational reform**

IMPLEMENTATION (Work packages and activities)



WP-1 Reconstruction and adaptation of TSRC premises

- Performed construction craft works
- Performed works on electrical installations
- Performed works on central heating and air conditioning
- 1 object (TSRC centre) renovated for Research, Development and Innovation (RDI) purposes and according to energy efficiency principles
- 4 laboratories renovated and prepared for the installation of new equipment

IMPLEMENTATION (Work packages and activities)



WP-2 Equipment purchase and trainings

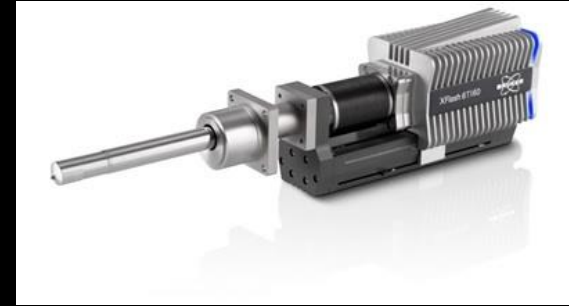
- Laboratory equipment purchased and installed
- 14 scientific research sets of equipment purchased and installed
- 14 people educated and trained for the use of new equipment
- 14 records/certificates on the training completion
- 3 scientific promotions

This project is co-funded by the European Union within the framework of the Operational Programme Competitiveness and Cohesion, from the European Regional Development Fund (ERDF).

WP-2 Equipment purchase → 14 sets of equipment



1. Wet cleaning system



2. EDS-SDD detector for SEM



3. STEM detector for SEM



4. UV-VIS spectrophotometer

WP-2 Equipment purchase → 14 sets of equipment



5. Remission Spectrophotometer



6. LOI Apparatus



7. Horizontal Flammability Test Chamber



8. Visco-Thermostat

WP-2 Equipment purchase → 14 sets of equipment



9. X-RAY generation device



10. X-RAY detection device



11. Light Exposure and Weathering Test Instrument



12. Rub fastness tester

WP-2 Equipment purchase → 14 sets of equipment

MI- TSRC



13. Sole Abrasion Resistance Tester



14. Testing device for determination of fabric comfort / touch

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IMPLEMENTATION (Work packages and activities)



WP-3 Organisational reform

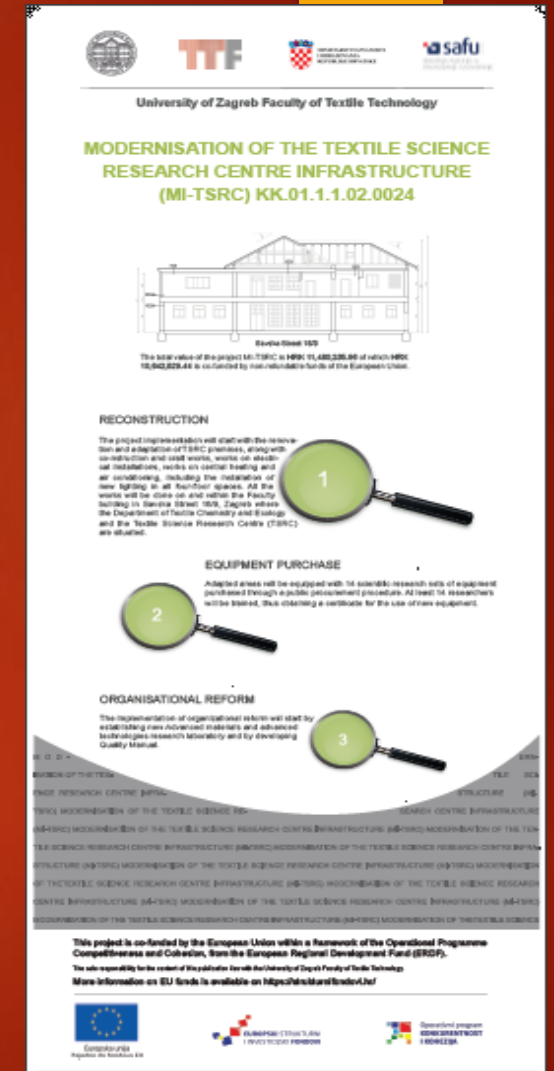
- ▶ Established Laboratory for advanced materials and advanced technologies
- ▶ Staff training plan
- ▶ 10 certificates of finished training (2/14 ✓)
- ▶ Report on conducted method validation
- ▶ Quality manual of Laboratory for advanced materials and advanced technologies
- ▶ 10% more analyses conducted
- ▶ Innovation portfolio

IMPLEMENTATION (Work packages and activities)

MI-TSRC

WP-4 Promotion and visibility

- Project Website ✓
- 3.000 Website visits ✓
- Promotional movie
- 1 roll-up ✓
- 300 flyers ✓
- Dissemination conference
- 100 participants on the final dissemination conference
- Project visibility temporary/permanent sign



This project is co-funded by the European Union within the framework of the Operational Programme Competitiveness and Cohesion, from the European Regional Development Fund (ERDF).

PROMOTION – Website (www.mi-tsrc.tff.unizg.hr)



Address

Savska Street 16/9
10 000 Zagreb



Phone/Fax

Phone: +3851 3712 500
Fax: +3851 3712 591



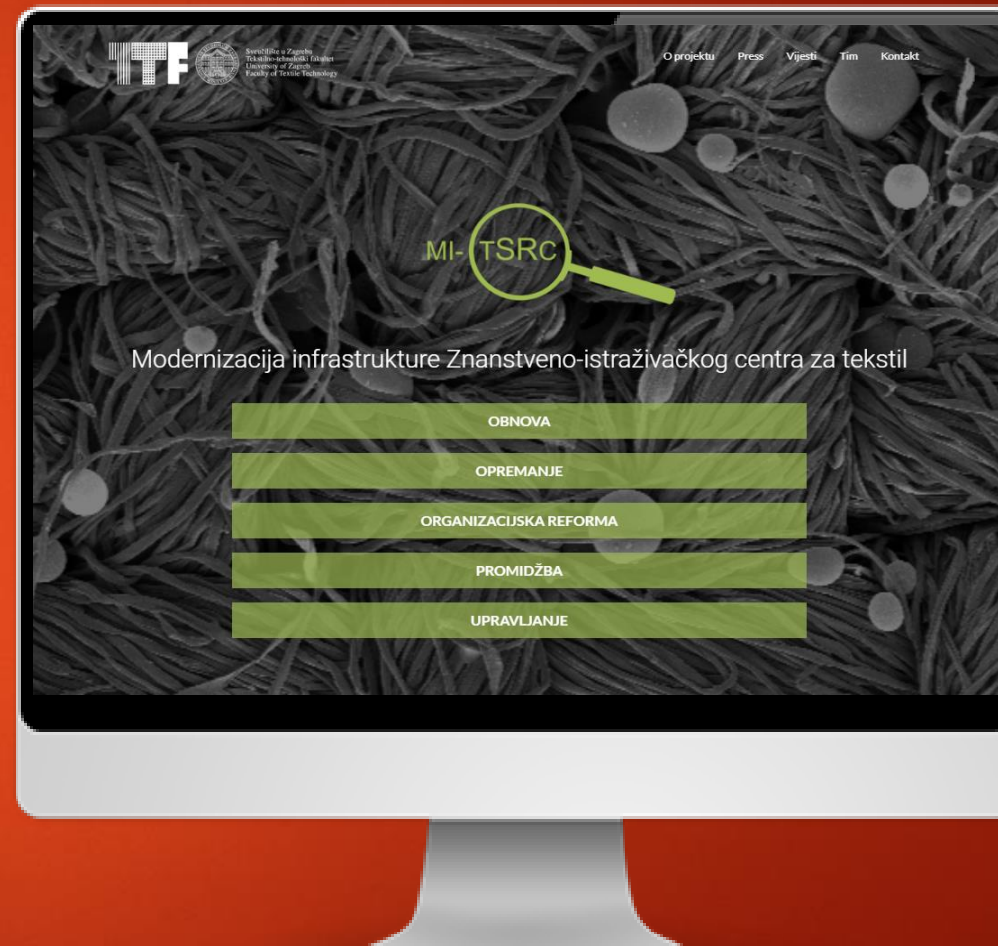
E-mail

info@ts-rc.eu



Project Website

www.mi-tsrc.tff.unizg.hr



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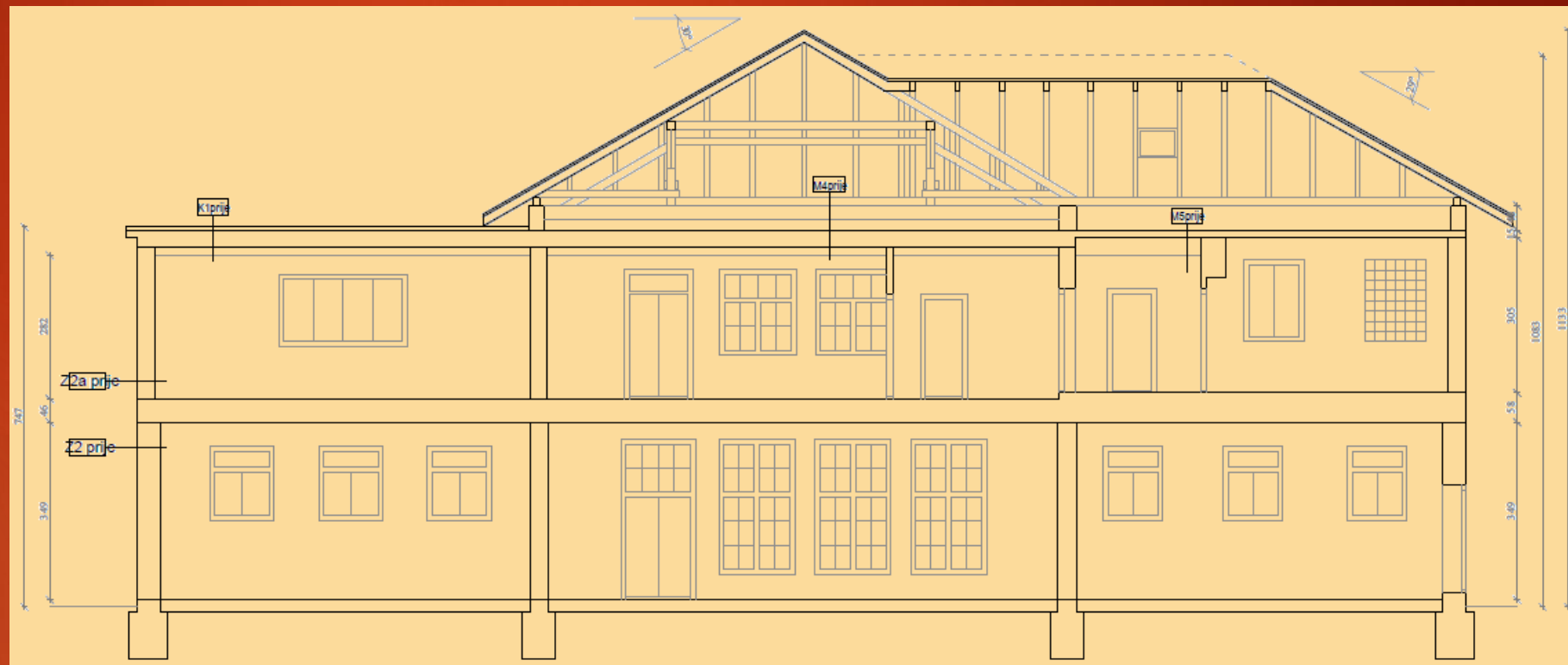
IMPLEMENTATION (Work Packages and Activities)

WP-5 Project management and administration

- Kick-off meeting ✓
- 5 project team meetings (1/5 ✓)
- 1 newly-employed person ✓
- Project management plan ✓
- Contracts signed with:
 - Project administrator ✓
 - Public procurement expert ✓
 - Construction works contractor ✓
 - Supervising engineer ✓
 - Work safety coordinator ✓
 - Website design and maintenance provider ✓
 - Project audit company ✓
- Reporting on project implementation (every 3 months) – delivery of Report for reimbursement
- Final report

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THANK YOU FOR YOUR ATTENTION !



Project coordinator:

Prof. Sandra Bischof, PhD

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