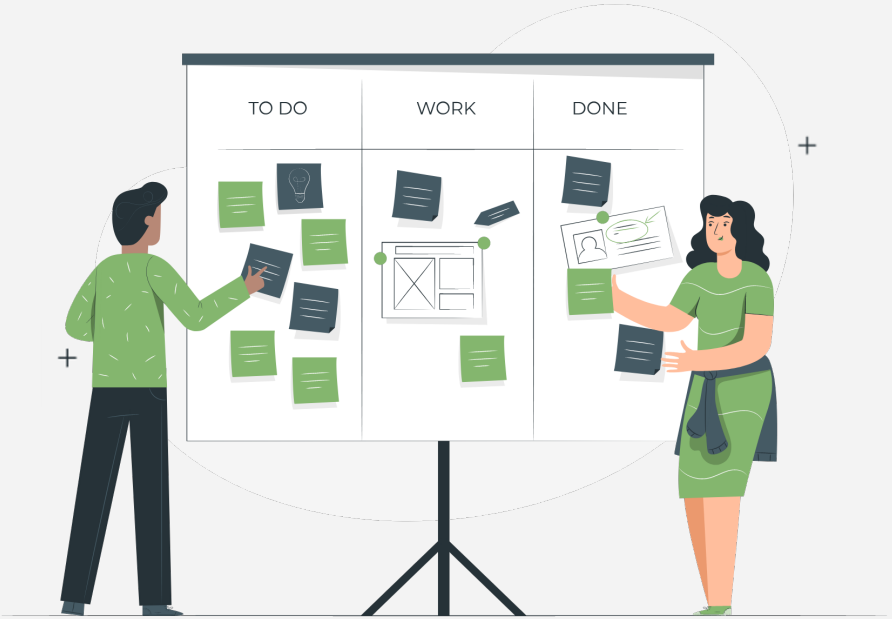
Driving innovation through European research projects

VEEP, RE4, ENDURCRETE



Ing. Zuzana Taťáková M.Sc, PM, FENIX TNT s.r.o.

01. VEEP PROJECT

The VEEP project and its achievements.

02. RE^4 PROJECT

The RE^4 project and its achievements.

03. ENDURCRETE PROJECT

The Endurcrete project, goals and progress

04. ABOUT US

FENIX TNT s.r.o.

05. CONTACTS

FENIX + project coordinators

Solutions for high-quality recycling of CDW

THE CHALLENGE

Develop and demonstrate a series of technological solutions for the **massive retrofitting of our built environment,** aiming at cost – effectively reducing building energy consumption.

THE VEEP ANSWER

The ambition of the VEEP project relates to different aspects - both to the technological & new processes development and to new materials & products development. The PCE solutions were conceived both for new building envelope / recladding and for building envelope refurbishment / overcladding.

ABOUT THE PROJECT

01

consortium

15 partners from 7 countries

02

total budget

€ 4 929 753,75

03

coordinator

RINA CONSULTING

04

call

H2020-EU.2.1.5.2.

05

demonstration

Spain, the Netherlands

06

duration

1 October 2016
31 March 2021

TECHNOLOGIES

The Advanced Drying Recovery (ADR)
mobile technology equipped with dynamic air sifter that allows to sift also moist materials..

The HAS technology is used for the valorization of the fine fraction aggregates (0-4mm) and can destroy undesirable C&DW contaminants via a pilot plant.

MANUFACTURING & PRODUCTS

Innovative Plastic Formworks.

Two novel multilayer Precast Concrete Elements (PCEs) eco-designed for both renovation and new buildings applications.

MATERIALS

New concrete formulations for normal and light-weight concretes presenting mechanical properties and durability suitable for the precast concrete.

New and green cement formulations.

A greener and more resistant Silica Aerogel.

THE VEEP IMPACT

- CO_2 savings, energy savings and higher resource efficiency - contributing to a resource-efficient and climate change resilient economy
- Creation of new value chains - expanding the size and attractiveness of C&DW recycling and reuse for energy efficient buildings construction and refurbishment
- High replication potential of the solutions obtained, with the possibility to export EU technology worldwide – replication assessment done
- Contribution with viable technologies that have the potential to significantly change practices of the construction industry towards circular economy practices
- Improvement of innovation capacity of the construction sector to stimulate new growth and jobs creation.

Solutions for high-quality recycling of CDW

THE CHALLENGE

Development of energy-efficient building concepts using **new or adapted prefabricated components**, allowing the **reuse and recycling** of different **materials and structures** while reducing energy use and minimising environmental impacts

minimum share of recycled materials in final product of **at least 10-15 %**

THE RE⁴ ANSWER

Development of a **fully prefabricated, energy-efficient, easy-dismountable**, and **reusable building** made of concrete and timber components **containing up to 65%** by weight of **CDW-derived materials and structures.**

ABOUT THE PROJECT

01

consortium

13 partners from 7 countries

02

total budget

€ 5 117 523,75

03

coordinator

CETMA

04

call

H2020-EEB-2016

05

demonstration

Italy, UK, Spain, Taiwan

06

duration

1 September 2016
29 February 2020

THE RE⁴ PILLARS

CDW management

- Stakeholders engagement
- DSS for CDW estimation and management
- New attractive business opportunities
- New technical profiles (CDW managers)

CDW recycling

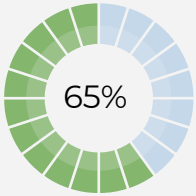
- RE⁴ advanced sorting technologies
- Compliance assessment and definition of new quality classes
- RE⁴ materials and prefabricated elements

CDW reuse

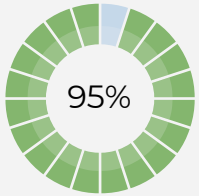
- Disassembly strategies
- Innovative design concepts for prefabricated elements
- Innovative design concepts for a fully prefabricated, easy dismountable RE⁴ building (flexibility: climate and structural requirements)

CDW perception

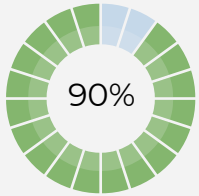
- Performance assessment
- Certification and standardisation strategies
- Life-cycle analyses and HSE (including s-LCA)
- Training videos for students and young technicians



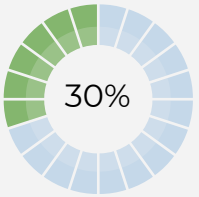
Maximizing virgin material replacement



Improving recycling rate



Reusable structures from RE4 building



CO_2 savings

THE RE⁴ ACHIEVEMENTS

...a fully REcycled house? YES, RE⁴ can! - fully prefabricated and 100% reusable building

- RE⁴ design for a fully prefabricated and 100% reusable building
- RE⁴ digital tool
- RE⁴ deconstruction strategy
- RE⁴ sorting system for HQ CDW-derived aggregates
- RE⁴ CDW quality classes
- The RE⁴ materials, elements and components (replacement rate to 100%)

THE RE⁴ ACHIEVEMENTS

Hans Sauer Award 2020 - DESIGNING CIRCULARITY IN THE BUILD ENVIRONMENT in the category **Tools | Materials | Methods**.

DGNB Sustainability Challenge winners! The RE⁴ project won the DGNG Sustainability Challenge 2020 in the “Research” Category!

EU Web Awards 2019 **-** RE⁴ project website nominated and among finalists in the Better world category!

RE⁴ project showcased as a success story of the H2020 programme!

New Environmental friendly and Durable conCrete, integrating industrial by-products and hybrid systems, for civil, industrial and offshore applications

THE CHALLENGE

Develop a NEW cost-effective sustainable reinforced concrete for long lasting and high impact applications.

THE ENDURCRETE ANSWER

Integration of novel low-clinker cement including high-value industrial by products, new nano and micro technologies and hybrid systems ensuring enhanced durability of sustainable concrete structures with high mechanical properties, self-healing and self-monitoring capacities.

ABOUT THE PROJECT

01

consortium

16 partners from 12 countries

02

total budget

€ 5 912 001,27

03

coordinator

HEIDELBERG CEMENT

04

call

H2020-EU.2.1.3.

05

demonstration

Spain, Norway, Croatia + Italy

06

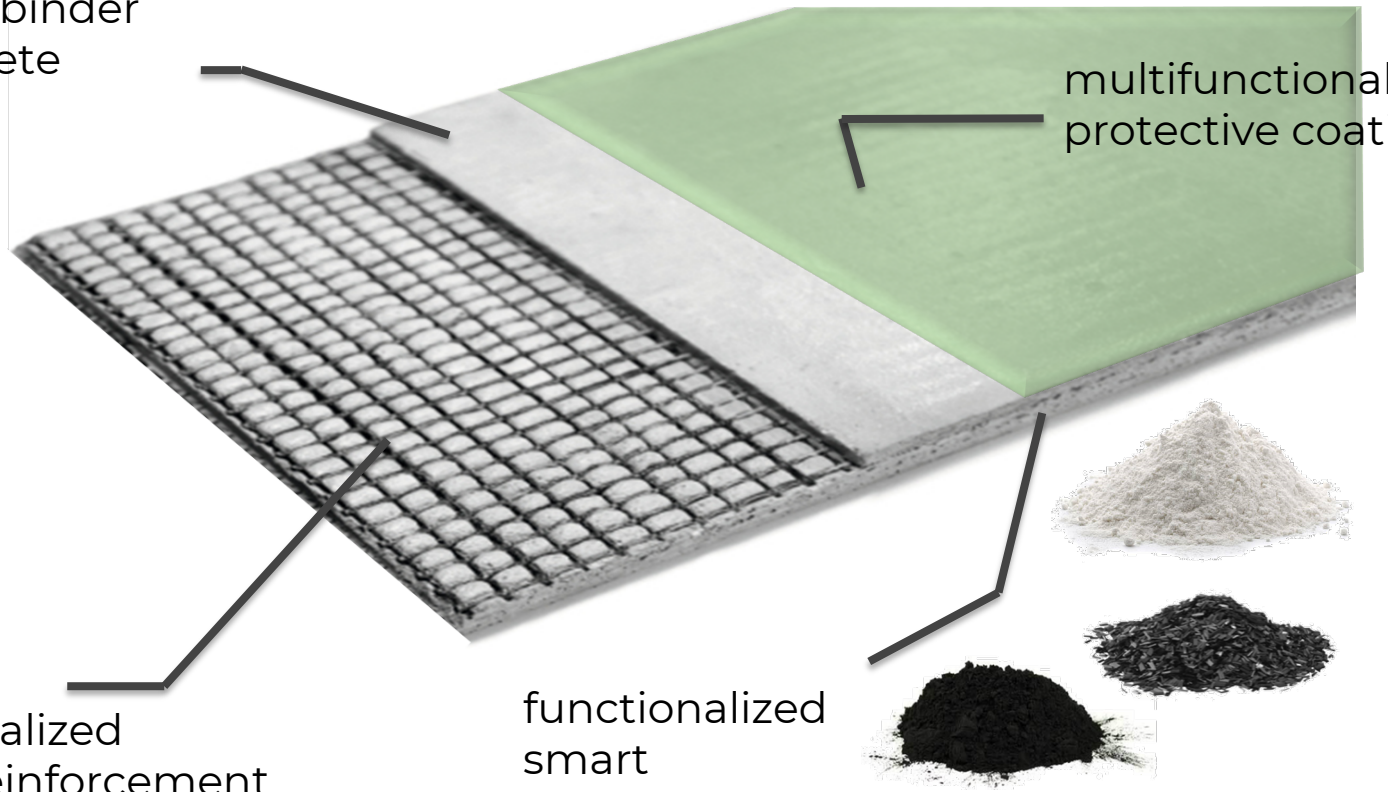
duration

1 January 2018
31 December 2021

THE KEY TECHNOLOGIES

novel binder concrete

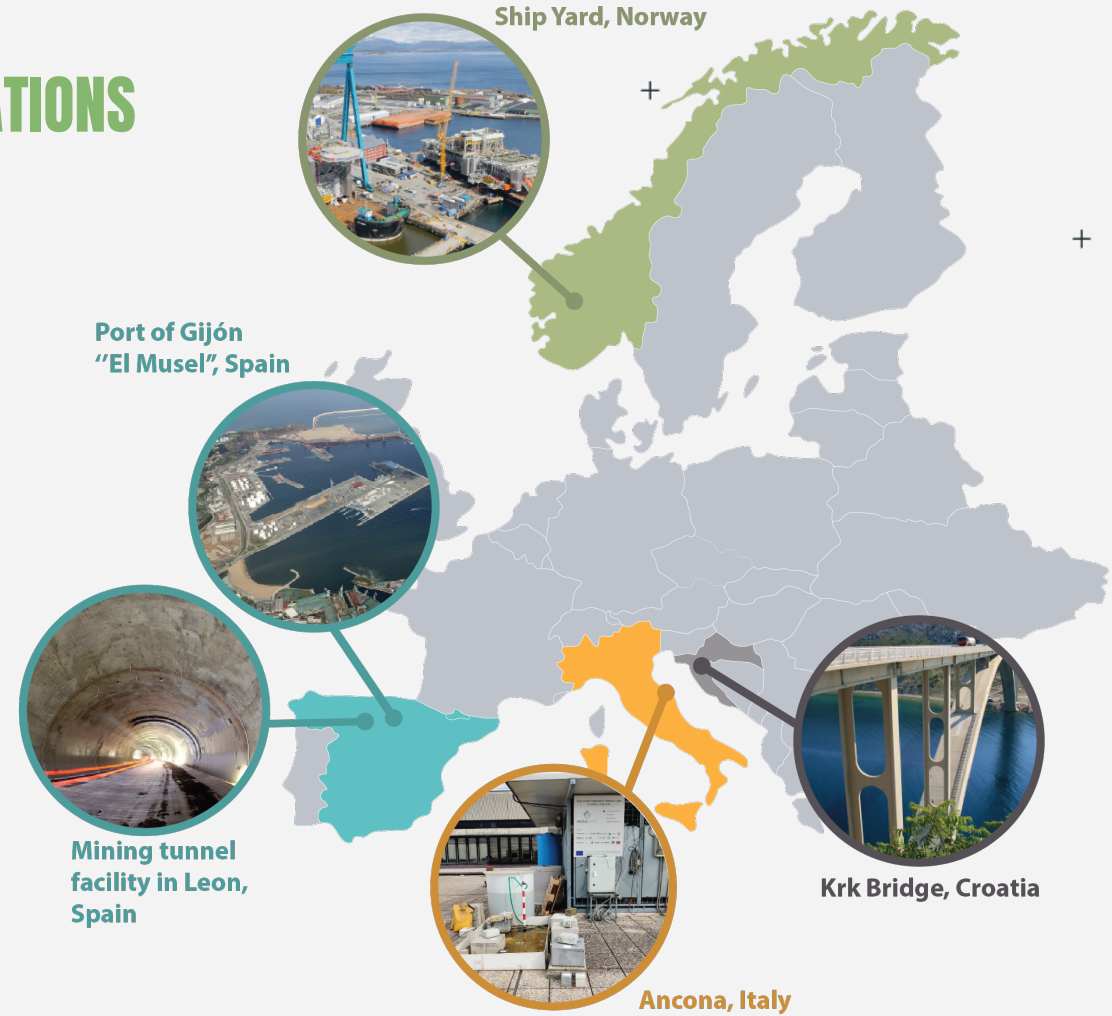
multifunctional protective coatings



functionalized textile reinforcement

functionalized smart admixtures

THE DEMONSTRATIONS



FENIX.TNT

tvořivost nad technologií

Consulting company established in 2007 with the main mission to help industrial and institutional clients implementing their innovation projects.

FENIX TNT provides a wide portfolio of services to help your research project to deliver what the market expects and properly communicate results to the public and customers.

BRNO I CZECH REPUBLIC

SERVICES

Management and funding

After many years of experience in EU funding schemes, project management, and proposal writing we can offer support services from the very beginning till the end of your project.

- Funding advice
- Proposal support
- Project management

Make an impact

We strategize using smart tools and global resources in order to increase the impact of our projects.

- Website management
- Social media
- Promo materials
- Videos
- Events
- Networking

Go-to-market

We support innovators to develop their innovation management capabilities in order to increase their competitiveness and grow more effectively.

- Market analysis & research
- Competitive analysis
- Business modelling
- Business plans and financial predictions
- Exploitation and IP management
- Data management plan

THANKS!

Do you have any questions?
Follow our project updates

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