# **WORLD NUCLEAR EXHIBITION**



**INNOVATION PROGRAM 04-06 NOVEMBER 2025 PARIS** 



### **USE OF SCAFFOLDING STRUCTURES**

- > CONVECTIONAL POWER PLANTS
- > NUCLEAR POWER PLANTS
- > HEATING PLANTS
- **BIOMASS INCINERATORS**
- > REFINERIES AND PETROCHEMISTRY
- > LNG TERMINALS
- > SHIPYARDS, STEELWORKS, MINES







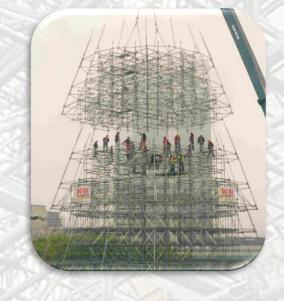






## **USE OF SCAFFOLDING STRUCTURES**

- > CHEMICAL FAKTORIES
- > CELLULOSE FAKTORIES
- > SCHIPBOARD AND PLYWOOD FACTORIES
- **CONSTRUCTION**
- > INFRASTRUCTURE
- > STAGES AND STANDS
- > NON-TYPICAL STRUCTURES













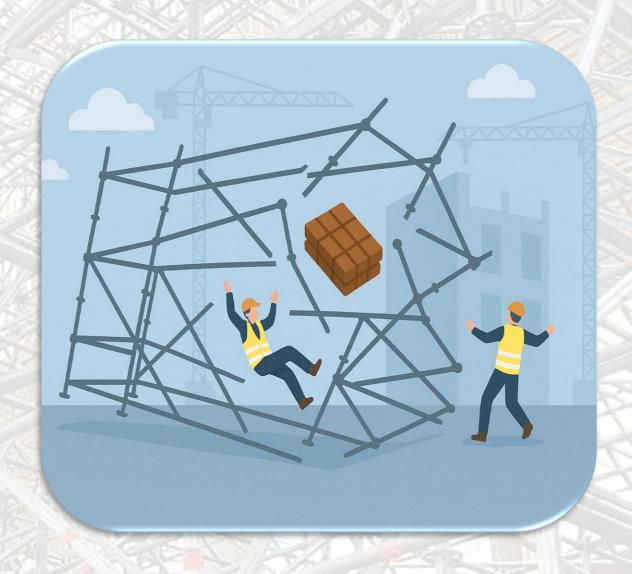
### **DEFINING THE PROBLEM**

**Scaffolding related accidents** are among the most common causes of injuries and deaths in the construction industry.

They account for up to 70% of all fatalities at construction sites in developing countries like Malaysia\*, and still at least 12% in developed countries like Poland\*\*.

Each year, construction companies lose **billions** of euros and countless labor hours due to not only such scaffolding-related fatalities and injuries, but also to scaffolding related **compliance issues**, **project delays**, **damages to equipment** and property.

There are currently no available solutions for monitoring scaffold loads to prevent accidents. Current solutions for managing scaffold structure, inventory, working hours and utilization rates are not integrated, causing **inefficiencies** and **high administrative costs** by using different tools.



<sup>\*</sup>Olanrewaju et al. (2021). An investigation into occupational health and safety of scaffolding practices on construction sites in Malaysia. Frontiers in Engineering and Built Environment. <a href="http://dx.doi.org/10.1108/FEBE-08-2021-0037">https://doi.org/10.1108/FEBE-08-2021-0037</a>
\*\* Sawicki, M., & Szóstak, M. (2020). Quantitative Assessment of the State of Threat of Working on Construction Scaffolding. International journal of environmental research and public health https://doi.org/10.3390/ijerph17165773



## CONSEQUENCES OF DISASTERS AND ACCIDENTS INVOLVING SCAFFOLDING



### 1. PERSONAL AND FAMILY

- > Fatal cases
- Serious bodily injuries
- > Treatment and rehabilitation

### 2. PERSONAL AND PROFESSIONAL

- Control proceedings (e.g.: PIP)
- Explanatory proceedings (e.g.: Prosecutor's Office)
- Court proceedings

### 3. SOCIAL

- > Involvement of rescue and medical services
- > Coverage of the costs of incapacity for work
- Coverage of the costs of treatment and rehabilitation
- Coverage of the costs of explanatory proceedings





### **CONSEQUENCES OF DISASTERS AND ACCIDENTS INVOLVING SCAFFOLDING**

### 4. PRODUCTION AND ECONOMIC

- Suspension of work on the project
- Suspension of the manufacturing or production proces
- Damage to the facility, structure, installation
- Destuction of scaffolding elements
- > Other property damage, compensation
- ➢ High accident insurance
- ➤ High company insurance premiums
- Costs of preparing and implementing repair programs





#### 5. COMPANY IMAGE IN THE MARKET

- Participation in tenders
- Working as part of a consortium
- Collaboration with clients
- Collaboration with subcontractors
- Employment problems



## **DIGITIZATION OF THE PROCESS**



Scaff Load S.A. has developed the first patented, comprehensive device and software system designed to digitalize load monitoring, supervision, alarming and management of scaffolding structures at every stage of assembly and use.

The intelligent Scaff Load system provides real-time monitoring and warnings and enables compliance with construction site regulations, increasing safety and security while reducing costs by reducing the risk of accidents, theft, administration and downtime.

The system can **send alerts and alarms** regarding overload, reduced loads, possible unauthorized dismantling, unauthorized entry and use outside the schedule. It enables **more efficient use** and management thanks to reports on use by different users, downtime and load.



### **DIGITIZATION OF THE PROCESS**



- > PROCESS MANAGEMENT
- > WORKERS' PROTECTION
- > STRUCTURE SAFETY
- > LOAD MONITORING
- > TECHNICAL SUPERVISION
- > EFFICIENCY, OPTIMIZATION
- > SETTLING ALGORITHMS
- > USAGE REPORTS
- > DATABASE



### MAIN STAGES OF DEVELOPMENT

### **IDEA, RESEARCH, LABORATORY TESTS**

### START UP, ENVIRONMENTAL TESTING, APPLICATION DEVELOPMENT

#### 2017

- Defining the problem of excessive load
- Concept of building a measuring device and an alarm system

#### 2018

- •Start of cooperation with the Industrial Institute in Warsaw
- Laboratory research
- Prototypes of measuring and alarm devices

#### 2020

- National Patent Application
- First
  environmental
  test of
  measuring
  devices and
  alarm system at
  Połaniec Power
  Plant in Poland

#### 2022

- Device tests
- National Patent for Scaff Load
- Patent application in the global - PCT procedure
- •Establishment of the start-up Scaff Load S.A..

#### 2023

- Testing of devices on EU projects
- •Functional analysis
- •New radio control system
- Purchase of real estate. Permit for construction of a service plant

#### 2024

- •Device tests on EU projects
- Mobile application development
- Service Plant development
- National patent procedure in the US and Canada

#### 2025

- Presentations
- Polish Energy Chamber (IGEiOS)
- Polish Scaffolding Chamber (PIGRID)
- Conference on Supplies for Nuclear Power Plants, Westinghause and Bechtel

### PATENT PROTECTION

PATENT OFFICE OF THE REPUBLIC OF POLAND NATIONAL PATENT NO. P.43524304.11.2022









PCT APPLICATION INTERNATIONAL PATENT
COOPERATION TREATY



POSITIVE OPINION OF THE EUROPEAN PATENT OFFICE



# **DEVICE PROTOTYPES - FIELD TESTED, EASY TO TRANSPORT AND INSTALL**



**TRANSPORT** 



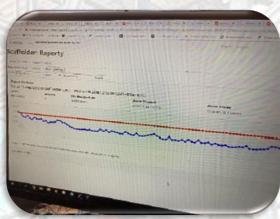


**INSTALLATION** 





**OPERATION** 





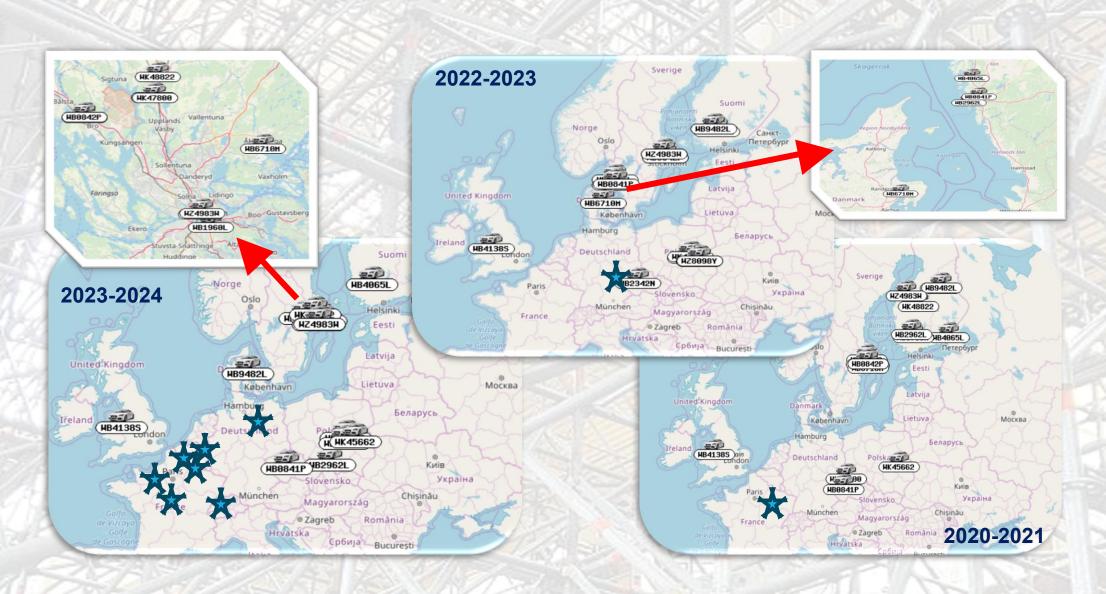
## **ALARM SYSTEM ARCHITECTURE**



www.scaff-load.com

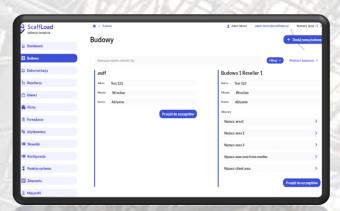


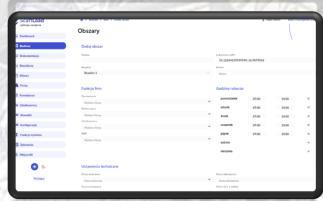
### **ENVIRONMENTAL TESTING OF DEVICES ON PROJECTS IN EUROPE**

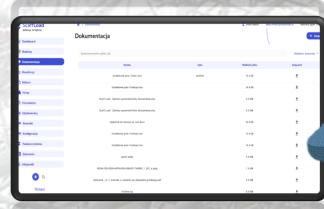


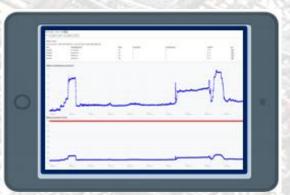


## MANAGEMENT APPLICATION - PC AND MOBILE DEVICES IOS AND ANDROID















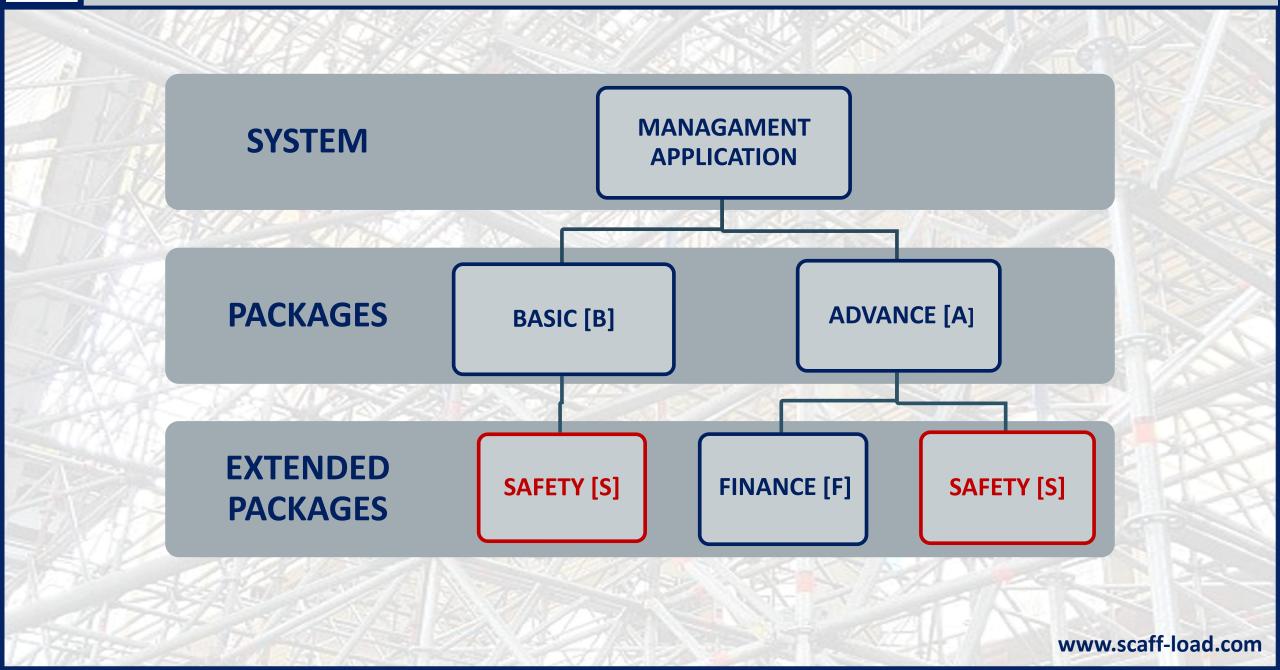




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## **PLANNED COMMERCIAL UTILITY PACKAGES**





### CONSTRUCTION OF A SERVICE PLANT AND COOPERATION







STOCZEK ŁUKOWSKI - CONSTRUCTION PROGRESS CURRENT 05/2025

#### **COOPERATION IN THE FIELD OF**

#### RESEARCH AND DEVELOPMENT OF THE SECURITY SYSTEM

Łukasiewicz Research Network

Industrial Institute of Automation and Measurements

#### **ENVIRONMENTAL TESTS OF DEVICES**

Scaffolder Polska Company

AssenScaff Oy Finland

Libergs Sweden A.B.

**Comach Company** 

#### **FUNCTIONAL ANALYSIS FOR MANAGEMENT APPLICATION**

**EXDIRO Company** 

**IDEO Company** 

#### **CONSTRUCTION OF MANAGEMENT APPLICATION**

**EXDIRO Company** 

PELC CONSULT GmbH

#### **CONSULTATIONS, OPINIONS, SOLUTION PRESENTATIONS - POLAND**

CIOP Central Institute for Labor Protection (2022 Competition)

IGEiOŚ (Chamber of Commerce for Energy and Environmental

Protection)

Agreement for Safety in Construction Chief

Labor Inspector Department of Control and Supervision

PIGRiD (Polish Chamber of Commerce for Scaffolding and Formwork)

## SAFE EMPLOYEE - RESPONSIBLE EMPLOYER



## SCAFF LOAD APPLICATION AND SYSTEM IS AT YOUR DISPOSAL

www.scaff-load.com e-mail; info@scaff-load.com

OFFICE, WARSAW, POSAG 7 PANIEN 1B, POLAND

(DIAMOND BUISNESS PARK)

THANK YOU FOR YOUR ATTENTION