Cadterv

ENGINEERING SERVICES

TURNING IDEAS INTO PRODUCTS

"At CAD-Terv we believe that open communication, ethical business conduct and consistently high-quality service are the foundations of long-term success. These values guide our daily work as an engineering team. Perfect quality is not only an expectation from our clients for us – it is a fundamental internal standard. Our experienced and highly qualified team ensures that we fully meet our partners' needs. We are proud of having decade-long relationships with both Hungarian and international clients. Satisfied customers are the greatest value to us."

ISTVÁN NADJ
CEO

Innovative SOLUTIONS

PRODUCT DEVELOPMENT

"Turning ideas into products" – we are passionate about guiding our partners along the entire journey from initial concepts and competitive designs through electronics integration, PCB design, and complex engineering solutions, all the way to the development of manufacturing-ready products. Throughout the process, we pay special attention to functionality, assembly, manufacturability, thermal issues, and electromagnetic compatibility. Our work is supported by state-of-the-art virtual validation and finite element simulation tools.

INDUSTRIAL AUTOMATION

Automation is only as complex and expensive as we make it. Our experienced engineers are leaders in developing cost-effective automation solutions – from workstations, robotic cells, jigs and fixtures to test equipment and robotic grippers. In the early decision-making phase, we prepare feasibility studies to explore options and support informed technical and business decisions. With our expert team, we don't just solve tasks – we offer engineering partnership, providing solutions to unique challenges and delivering fully functioning systems.

METAL ENGINEERING SOLUTIONS

With almost 30 years of experience, we deliver customized metal engineering solutions across various industries – from heavy-duty robotic platforms to precision logistics equipment. Our engineers support our partners at any stage of the development process, whether it involves new constructions, upgrades, or virtual validation of existing systems. Our innovative engineering approach aims to create structures that meet cost expectations while maintaining strength and reliability. Using FEA tools from the concept phase allows us to ensure structural reliability even under complex load conditions.

DEFENSE INDUSTRY EQUIPMENT

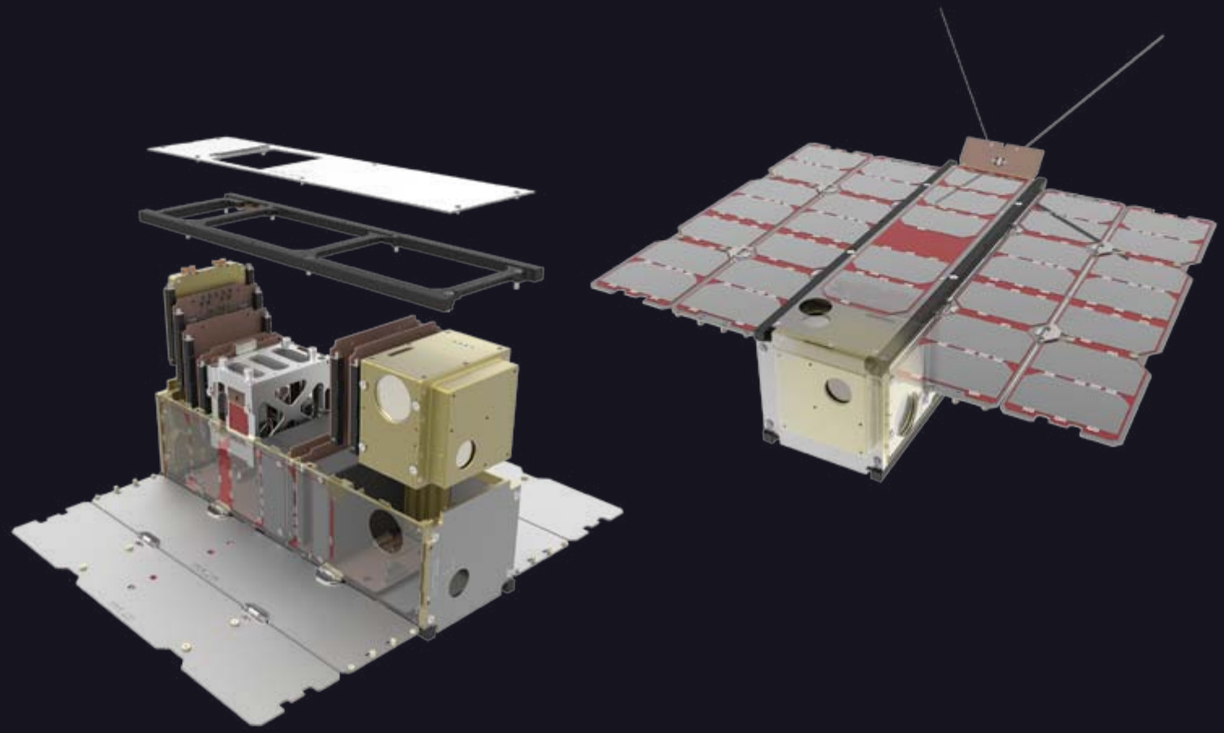
Mechanical Solutions for OnTime Networks

We develop complex mechanical systems for OnTime Networks, a leading provider of rugged, time-synchronized Ethernet solutions for mission-critical aerospace and defense applications. Our responsibilities encompass mechanical design and prototype production. Our engineers focus on thermal management, ingress protection, electromagnetic compatibility, and vibration resistance. From the concept phase, we support development with thermal simulations to ensure the long-term reliability of passive cooling systems, even in extreme environments.

PRECISION MACHINING | ADVANCED MATERIAL SELECTION | HARSH ENVIRONMENTS | THERMAL SIMULATION
PRODUCTION COORDINATION | SHEET METAL COMPONENTS | COMPLEX MODELING | PCB DEVELOPMENT

SPACE INDUSTRY EQUIPMENT

Mechanical design of modular small satellite platforms



We contributed to the mechanical development of Masat-1, a milestone in Hungarian space engineering. Building on this experience, we developed universal Cubesat platforms whose modular design and robust structure provide a stable foundation for various space applications. We focused on withstanding extreme environmental loads such as rocket launch acceleration, vibration, and temperature fluctuations.

PRODUCTION COORDINATION | ADVANCED MATERIAL SELECTION | HARSH ENVIRONMENTS | PCB DEVELOPMENT
PRECISION MACHINING | PROTOTYPE TESTING | THERMAL SIMULATION | INDUSTRY STANDARDS COMPLIANCE

NORT COMPLEX

Innovative soccer training device

We designed an award-winning training device in collaboration with Flying Objects and PCB Design, aimed at improving football players' psychomotor and cognitive skills. Our complex mechanical solutions ensured a robust design, shock-resistant casing, and stable structure, capable of withstanding powerful impacts over time. The product received the **Red Dot Design Award: Best of the Best in 2022.**

INJECTION-MOLDED PARTS | PROTOTYPE TESTING | PLASTIC PART DESIGN | STARTUP MENTORING | INDUSTRIAL DESIGN | PCB DEVELOPMENT | THERMAL SIMULATION | PRODUCTION COORDINATION | UI/UX

AX SYSTEM

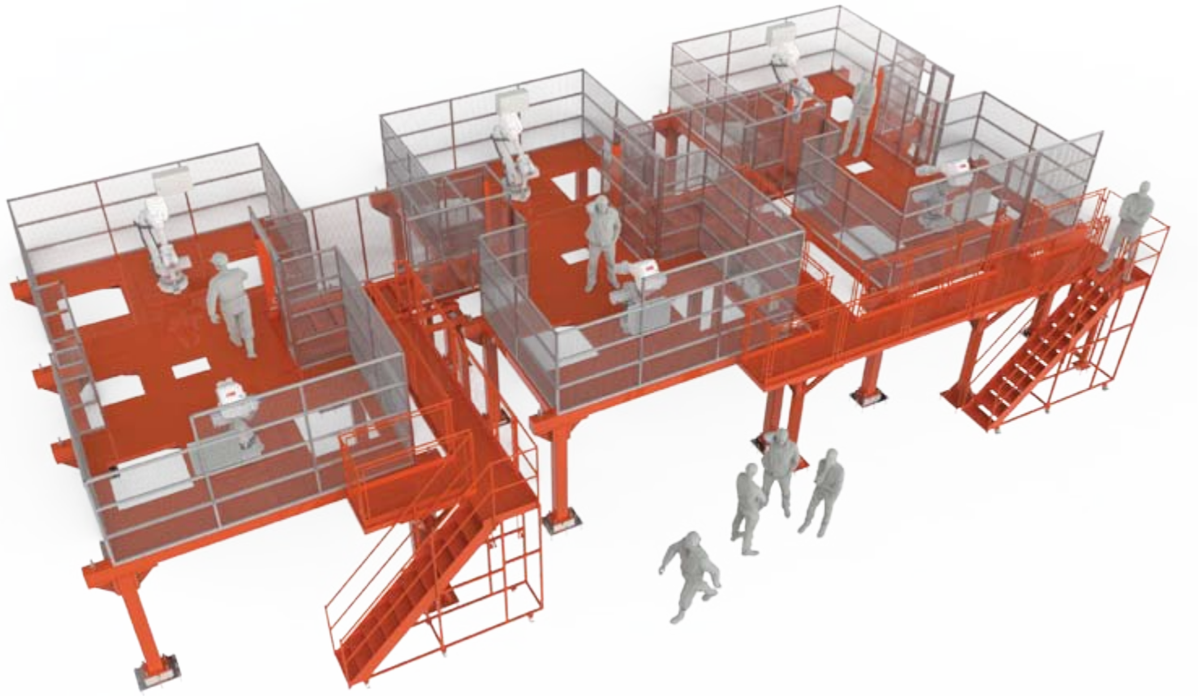
AI-based visual warning system

The AX System is an AI-powered traffic management system that analyzes traffic in real-time within warehouses and production halls, issuing visual alerts to prevent collisions and accidents. Our engineers were responsible for designing the robust housing and securing the electronic components, creating a structure that can endure industrial environments. The injection-molded base and stainless-steel sheets ensure protection, durability, and a modern look – contributing to the system's reliable, maintenance-free operation.

INDUSTRIAL DESIGN | INJECTION-MOLDED PARTS | LOGISTICS | UI/UX | SHEET METAL COMPONENTS

ROBOT PLATFORM DEVELOPMENT

Innovative robot platform for restricted factory space

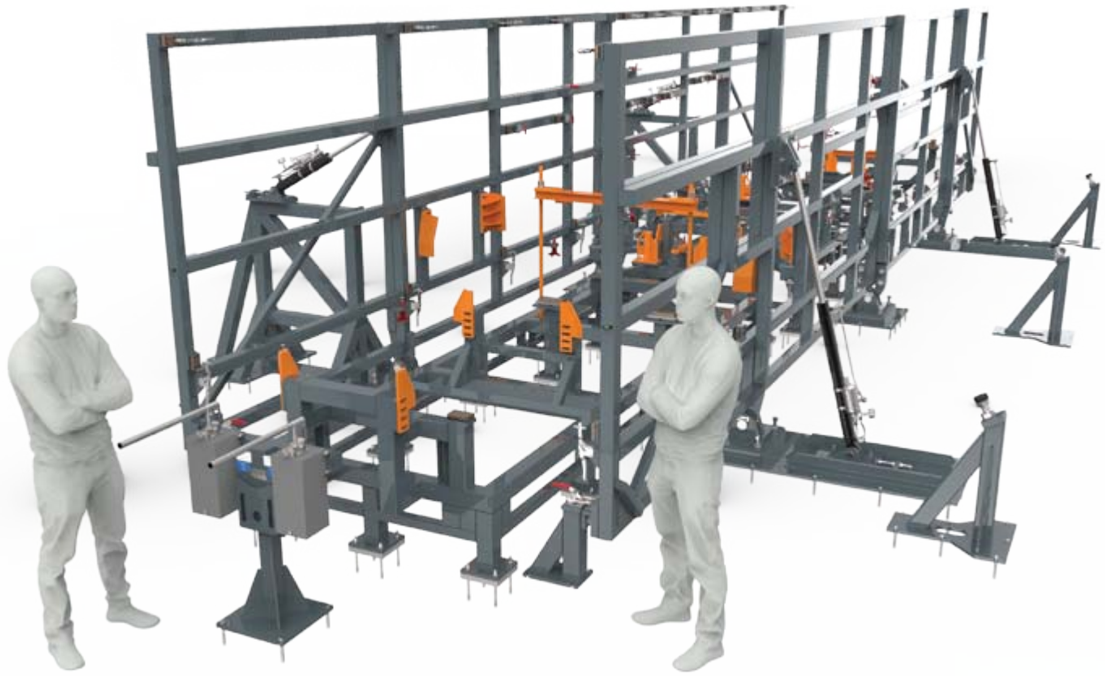


Our engineers designed a heavy-duty platform capable of supporting six simultaneously working industrial robots. The resulting extreme loads were analyzed using FEA, allowing us to optimize the structure. During the design process, we paid attention to component positioning within strict tolerance limits. We evaluated ergonomic and safety requirements using virtual simulation tools.

INDUSTRIAL ROBOTS | WELDED STRUCTURES | FINITE ELEMENT ANALYSIS | ERGONOMICS | HIGH-PERFORMANCE MACHINES | HARSH ENVIRONMENTS | CYCLE TIME OPTIMIZATION

BUS FRAME WELDING FIXTURE

Improving efficiency in bus manufacturing

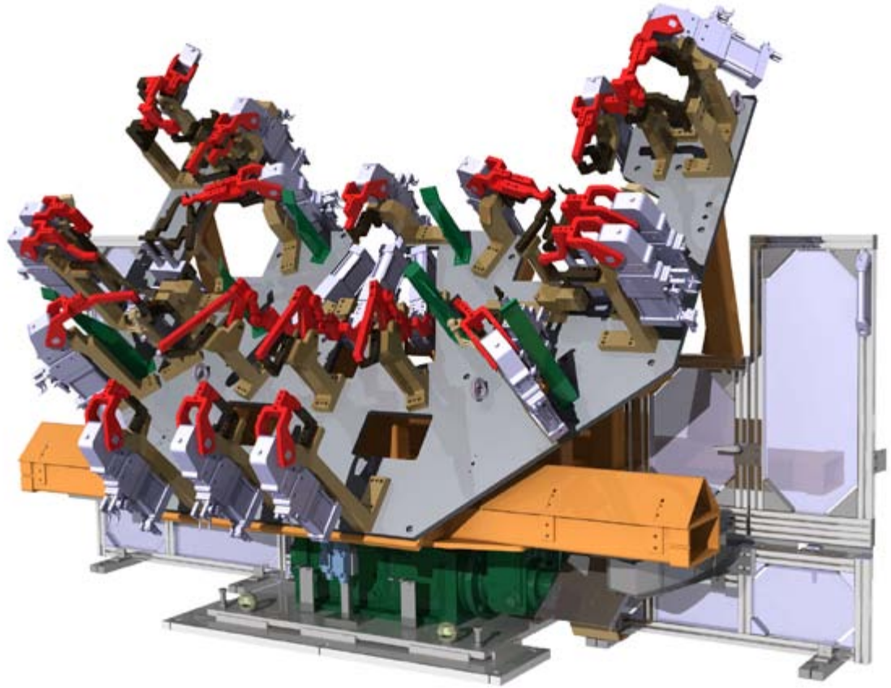


We developed a 14-meter welding fixture for our partner, enabling the precise clamping and positioning of the complete bus frame – including chassis, side frames, and roof – during the welding process. We focused on minimizing deformation of large components, ensuring adjustability, and maintaining accessibility to weld points. The result is a high-precision fixture that streamlines the bus frame assembly process.

FIXTURE DESIGN | ASSEMBLY | PRODUCTION COORDINATION | WELDED STRUCTURES

AUTOMOTIVE BODY-IN-WHITE TOOLING

Equipment for car body manufacturing



With almost three decades of experience, we develop robotic grippers and fixtures for manufacturing car body components. We oversee the entire design process from initial concept to full manufacturing documentation and actively support robot simulations. Our in-house software development team creates innovative tools to optimize design workflows – including pneumatic circuit planning, supported by our proprietary APPS application. With our TISAX certification, we ensure that our data security standards meet the highest industry requirements.

PRODUCTION LINE SUPPORT | CYCLE TIME OPTIMIZATION | INDUSTRIAL ROBOTS | PRECISION MACHINING | FIXTURE DESIGN | WELDED STRUCTURES | INDUSTRY STANDARDS COMPLIANCE | PNEUMATIC DESIGN

LOGISTICS EQUIPMENT

Tailor-made solutions for storage and transportation

We meet the special requirements of intralogistics in the automotive industry with decades of experience in designing and manufacturing special containers and other logistics equipment. Our partners can rely on our expertise throughout the development process – from initial concepts and regulatory-compliant technical documentation to small-series manufacturing. Our simulation team supports the design process with static and dynamic FEA analyses, ensuring the structural stability of the logistics equipment.

INDUSTRIAL ROBOTS | HIGH-PERFORMANCE MACHINES | FINITE ELEMENT ANALYSIS | CYCLE TIME OPTIMIZATION | ERGONOMICS | WELDED STRUCTURES | INDUSTRY STANDARDS COMPLIANCE | PRODUCTION COORDINATION

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reddot award 2022
best of the best

First Edition – 2025