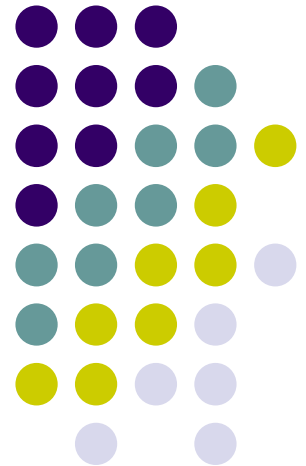






Company Profile



Location



Zagreb – Capitol od Croatia
Approx. 1 million inhabitants

		
Graz	200 km	
München	550 km	1 h
Stuttgart	800 km	1,5 h
Frankfurt	900 km	1,5 h





University of Zagreb

Founded 1669 **Oldest in the region**
Consisting of: **29 Faculties, 3 Academies**
Students: **67039**
Employees **6958**



Faculty of Mechanical Engineering and Naval Architecture



Founded 1919 **Oldest in the region**
Consisting of: **Mechanical Engineering, Naval Architecture, Aeronautics**
Students: **1932**
Employees: **504**

Adolo 7 Ltd.



Founded 2010 as the new „hightech spinoff“ company at the Faculty
Adolo 7 disposes collectively of **110** years of professional experience in research and development work on projects, testing and marketing in the area of motor vehicles, internal combustion engines, mechanical engineering and measurement technique



- Permanent staff
 - 2 professors
 - 4 postdocs / scientific researchers
- Project related staff
 - approx. 10 more professors / scientific officers
- Permanent collaboration with
 - Kvočič Ltd.
 - National Instruments Slovenia

- **Automotive engineering**
- **Traffic**
- **Green technology**



- **Vehicle concepts**
- **Vehicle modifications**
- **Virtual product development**
- **Simulation**
- **Software-development**



- **Special vehicles**
- **Superstructure**
- **Equipment**
- **Approvals & Certificates**

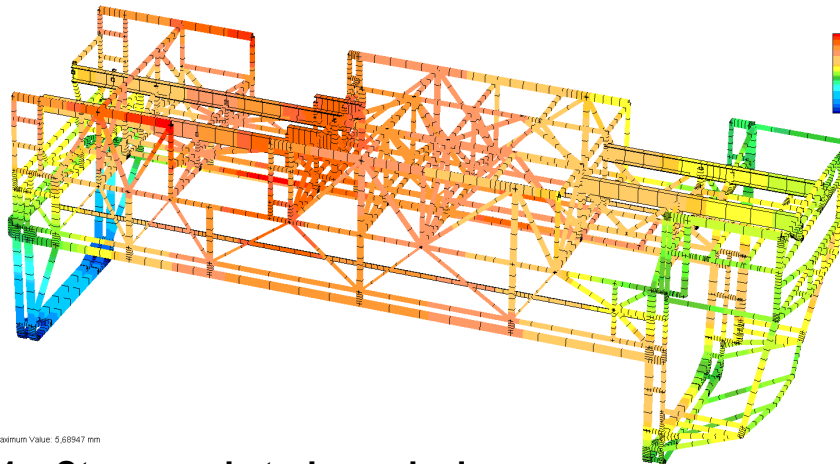
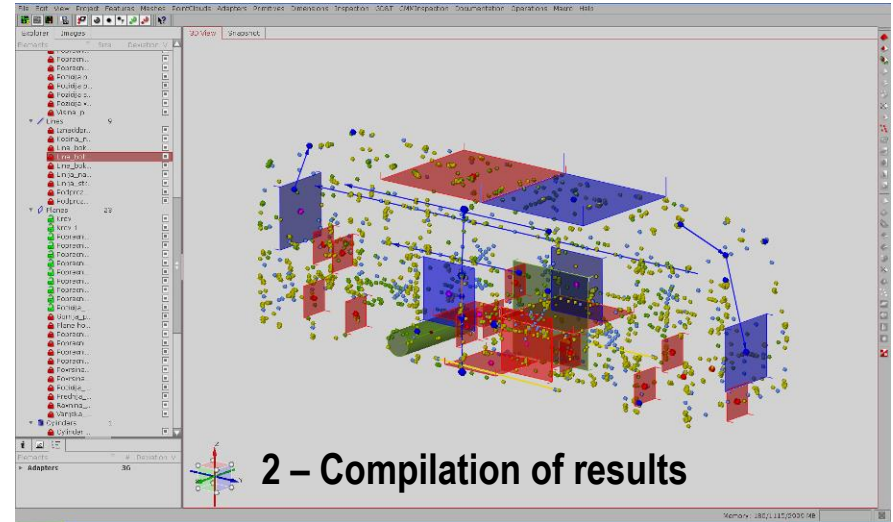


- Concept development of a low-floor bus / commercial vehicle – detail: steering system
- Conversion of a regular bus into a panoramic bus
- Modernization of trams
- Development and testing of the braking system for vehicles used by drivers with physical disabilities
- Development of the off-road race car
- CNG large engines: reduction of NOx-emissions
- Truck harness drawing layout optimization
- Data acquisition and signal processing
- RIMAC Electric Vehicle eM3 – Vehicle approval documentation

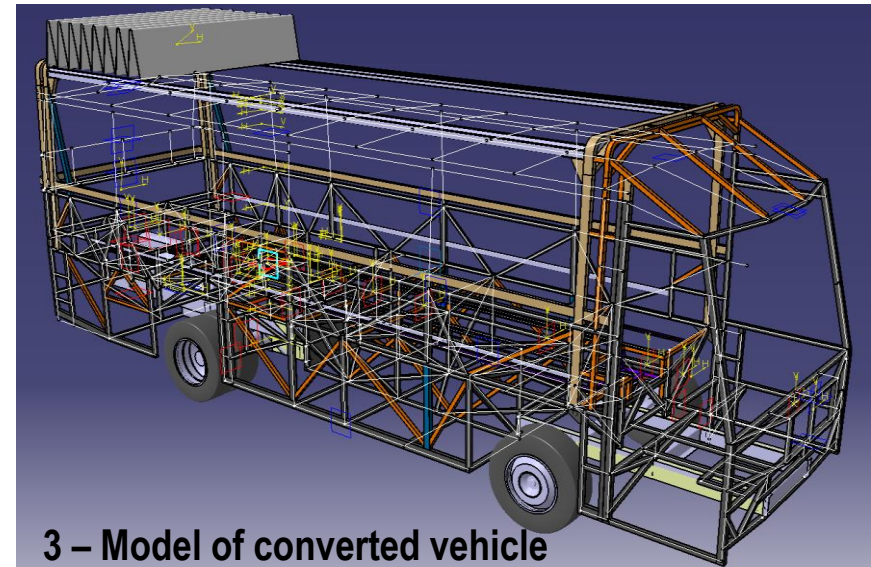
Conversion of a Regular Bus into a Panoramic Bus



1 – Photogrammetric photography



4 – Stress and strain analysis



3 – Model of converted vehicle

Converted Buses



Dubrovnik



Zagreb

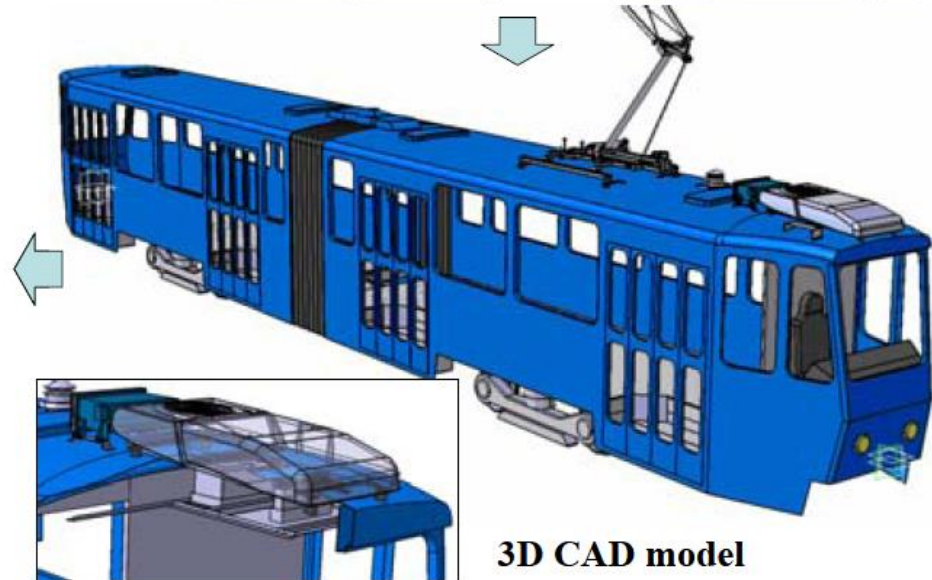
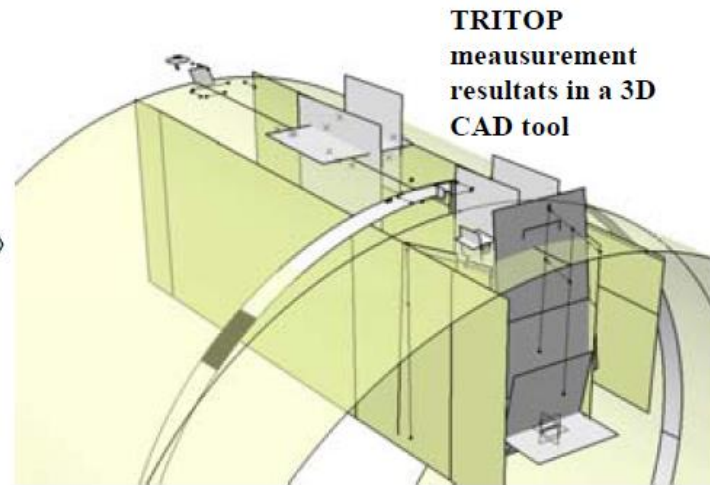


Zagreb

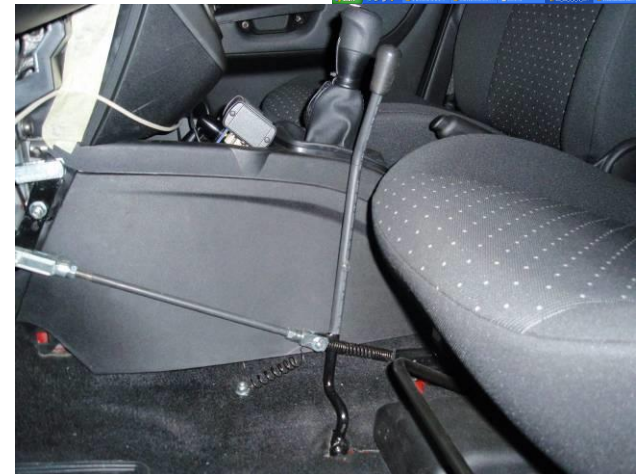
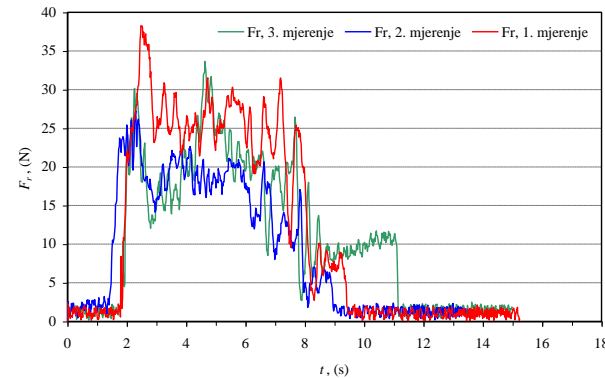
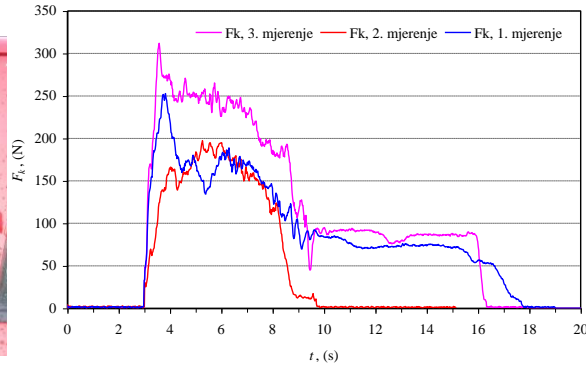
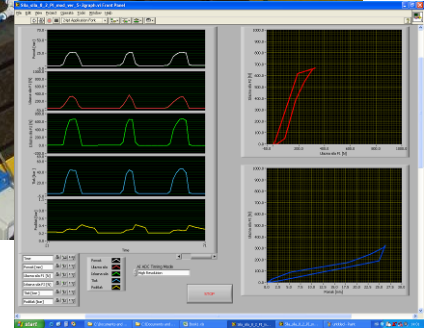
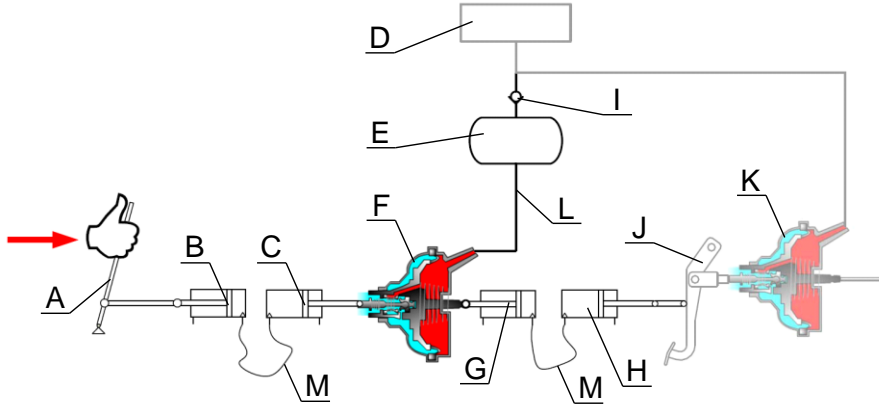


Zadar

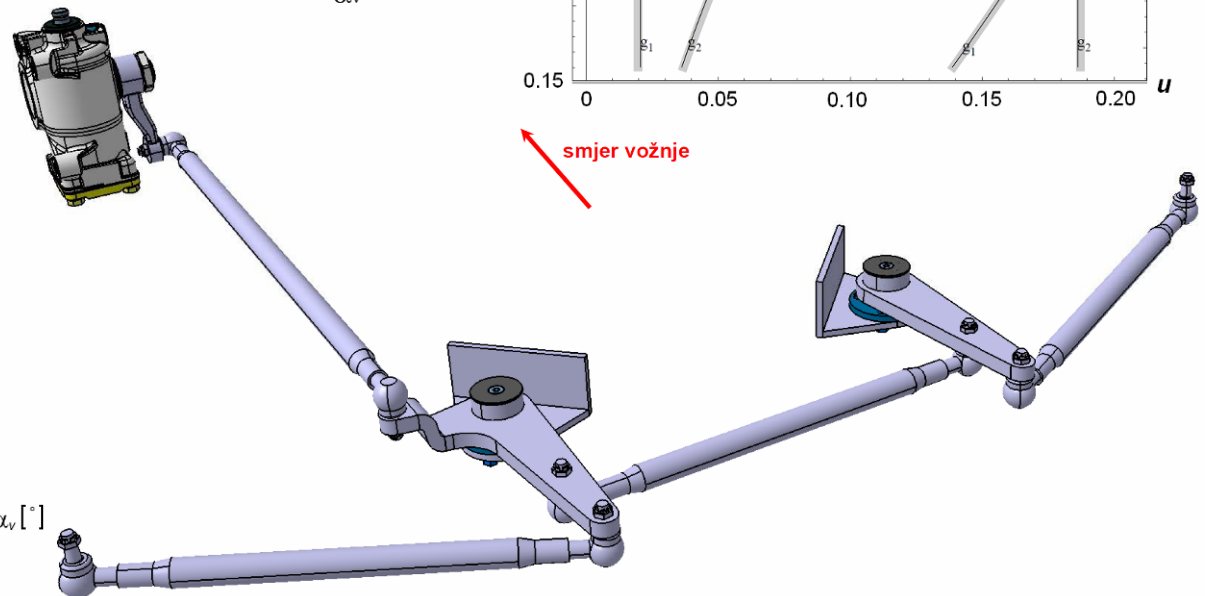
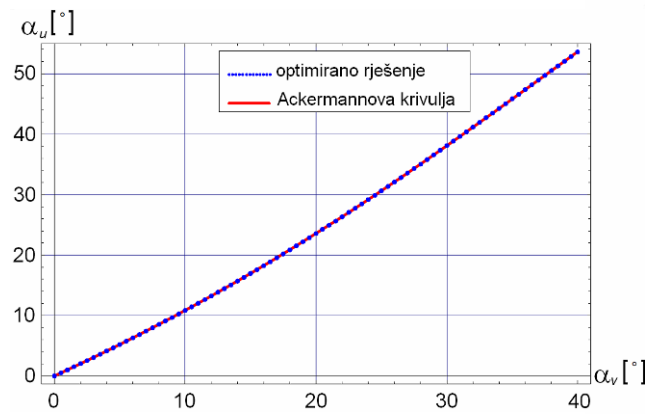
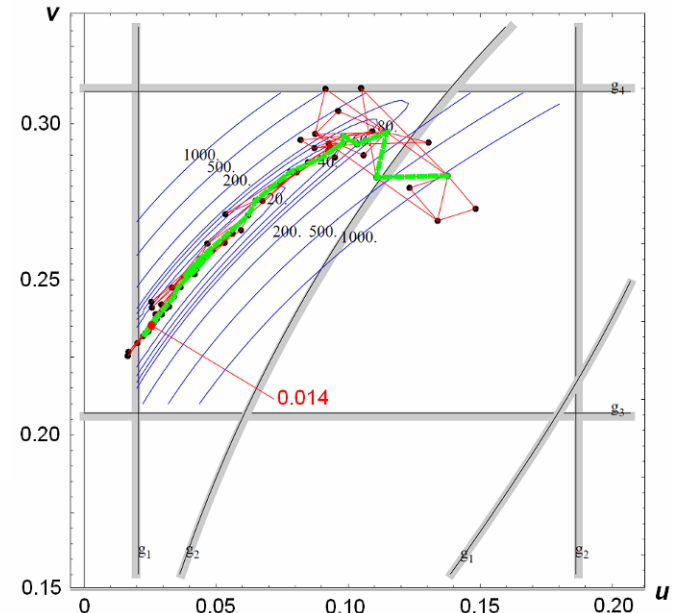
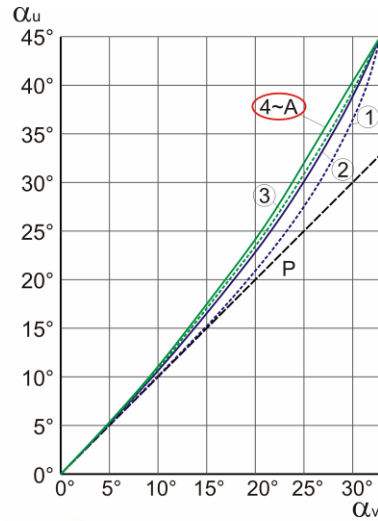
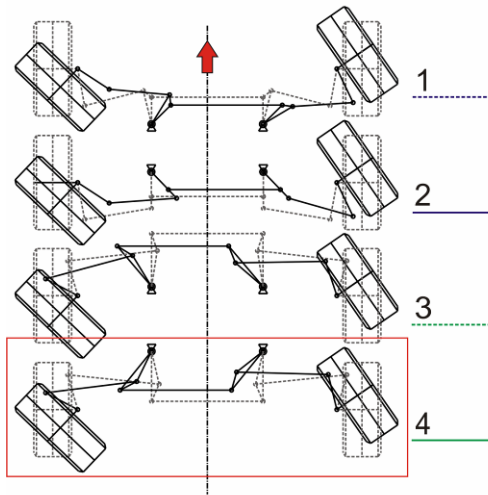
Modernization of Trams



Development the Braking System for Vehicles Used by Drivers with Physical Disabilities



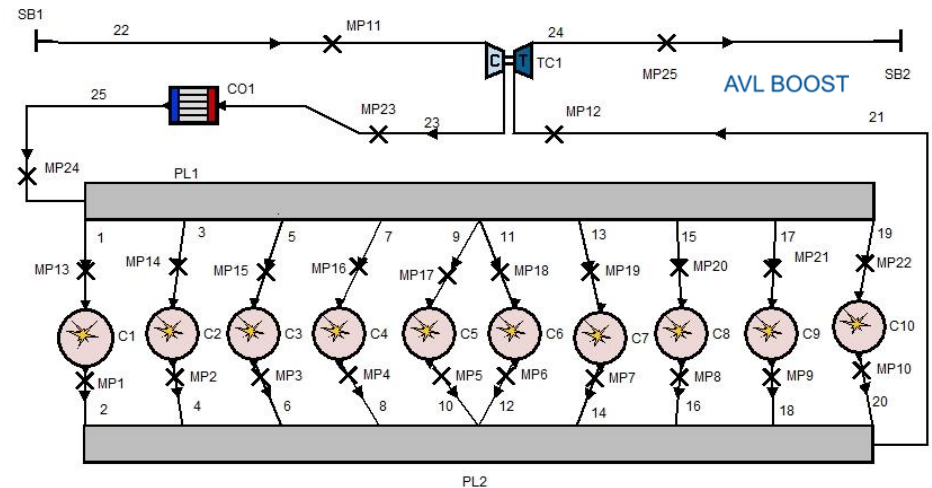
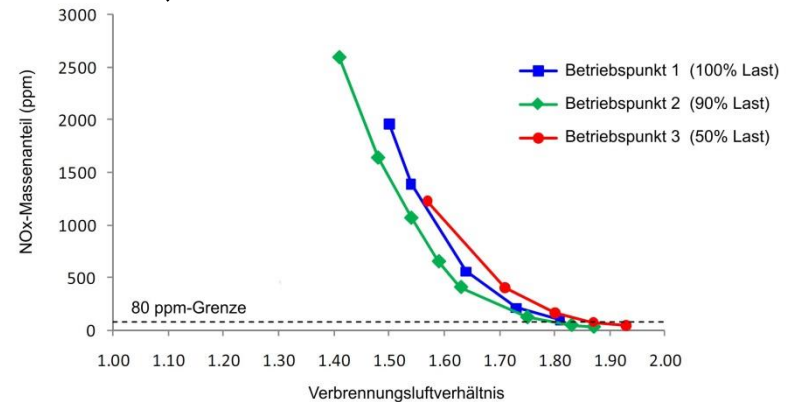
Development of the Steering System for a Low-floor Bus / Commercial Vehicle



Large CNG-engines: Reduction of NOx Emissions



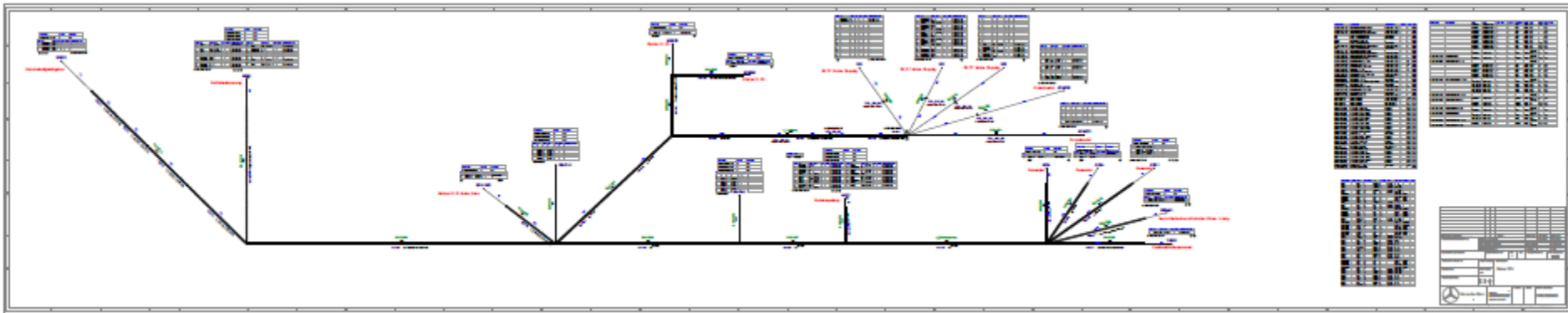
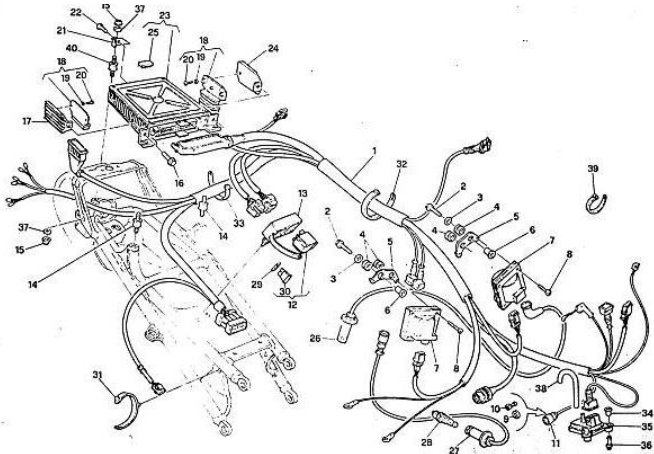
- Feasibility study of the reduction of NOx emissions for the underground natural gas storage PSP Okoli, Ivanic-Grad, Croatia



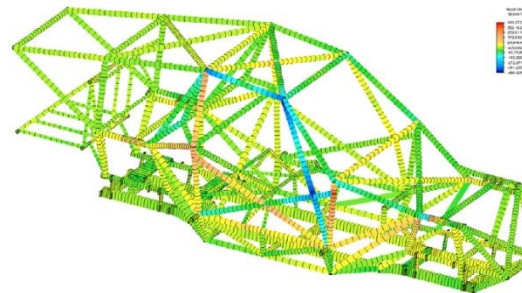
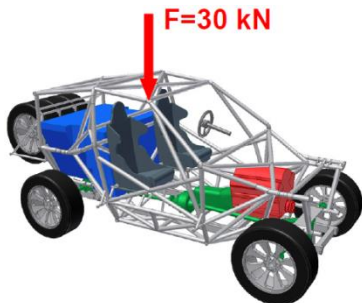
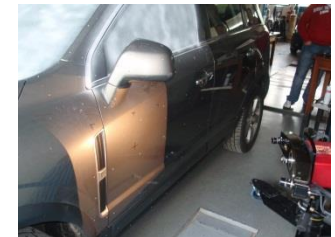
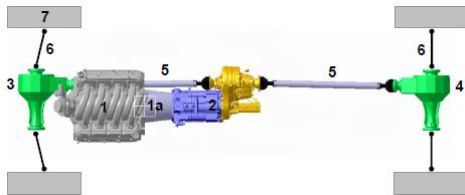
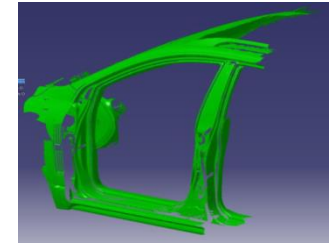
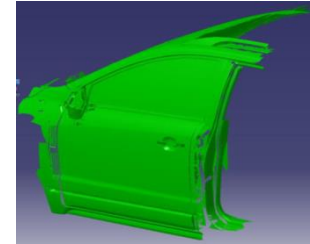
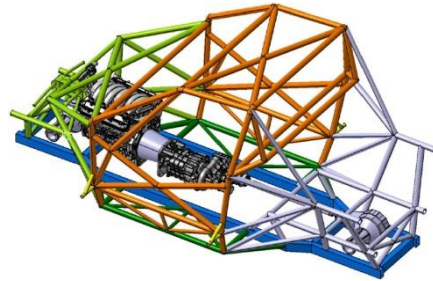
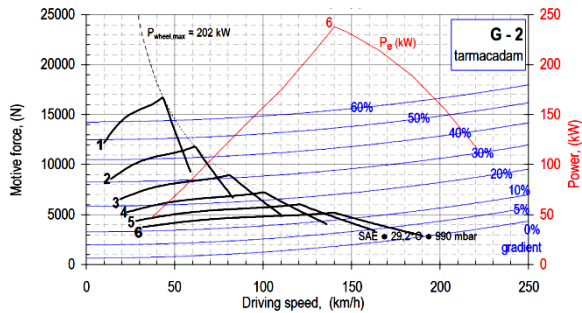
Truck Harness: Drawing Layout Optimization



- Drawing layouts are often too complex to ensure no intersection of singular trees. We developed a solution with no intersections by using various graph optimization algorithms.



Race Car for DAKAR Rally in an Advanced Stage of Development



Vehicle approval documentation



5. Predmeti homologacije prema TPV pravilnicima o odnosu EU direktivama

Na predmetima vozila izvršena je provjera sukladnosti dijelova i sklopova prema sljedećim TPV pravilnicima o odnosu odgovarajućim EU (EEZ) direktivama.

Tablica 5.1. Predmeti homologacije prema TPV pravilnicima i EU direktivama

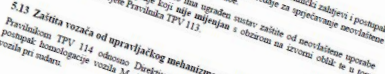
Redni broj	Predmet homologacije	Odnosna Direktiva	EU Direktiva	MM	Sigurnost
1	Klasa vozila	TPV 101	Direktiva 76/432/EEZ	A	
2	Emisije	TPV 102	Direktiva 70/220/EEZ	A	
3	Sporazum potvrdi zaštitu od nepoželjnih vibracija	TPV 103	Direktiva 70/220/EEZ	B	Nije vrijedna
4	Prilazak i povratak sigurnosti pri izlasku iz putne staze	TPV 104	Direktiva 70/220/EEZ	B	Nije vrijedna
5	Uređaji za upravljanje	TPV 105	Direktiva 70/220/EEZ	B	Nije vrijedna
6	Strovi i sigurnost	TPV 106	Direktiva 70/220/EEZ	C	Nije vrijedna
7	Uređaji za upravljanje i sigurnost	TPV 107	Direktiva 70/220/EEZ	C	Nije vrijedna
8	Uređaji za upravljanje i sigurnost	TPV 108	Direktiva 70/220/EEZ	C	Nije vrijedna
9	Uređaji za upravljanje i sigurnost	TPV 109	Direktiva 70/220/EEZ	C	Nije vrijedna
10	Uređaji za upravljanje i sigurnost	TPV 110	Direktiva 70/220/EEZ	C	Nije vrijedna
11	Uređaji za upravljanje i sigurnost	TPV 111	Direktiva 70/220/EEZ	C	Nije vrijedna
12	Uređaji za upravljanje i sigurnost	TPV 112	Direktiva 70/220/EEZ	C	Nije vrijedna
13	Uređaji za upravljanje i sigurnost	TPV 113	Direktiva 70/220/EEZ	C	Nije vrijedna
14	Zaštita vozila od nepoželjnih vibracija	TPV 114	Direktiva 74/61/EEZ	C	
15	Uređaji za upravljanje i sigurnost	TPV 115	Direktiva 74/61/EEZ	C	
16	Uređaji za upravljanje i sigurnost	TPV 116	Direktiva 74/61/EEZ	C	
17	Uređaji za upravljanje i sigurnost	TPV 117	Direktiva 74/61/EEZ	C	
18	Uređaji za upravljanje i sigurnost	TPV 118	Direktiva 74/61/EEZ	C	
19	Uređaji za upravljanje i sigurnost	TPV 119	Direktiva 74/61/EEZ	C	
20	Uređaji za upravljanje i sigurnost	TPV 120	Direktiva 74/61/EEZ	C	
21	Uređaji za upravljanje i sigurnost	TPV 121	Direktiva 74/61/EEZ	C	

5.11 Unutrašnja opremljenost



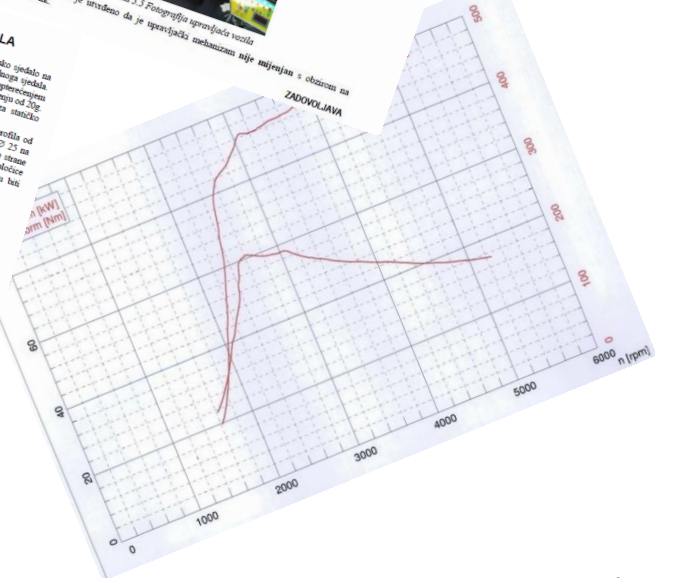
Slika 5.4 Fotografija unutrašnje opremljenosti vozila

5.12 Zastita od neovlaštene uporabe i imobilizacija vozila



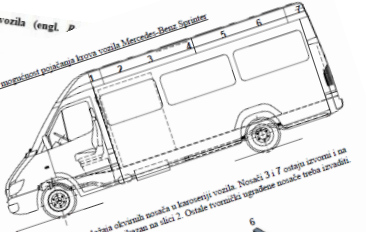
Slika 5.5 Fotografija upravljačkog mehanizma vozila

5.13 Zastita vozača od upravljačkog mehanizma u slučaju sudara



1. Prepoznavanje i vidljivost medicinskih vozila (engl. ρ visibility of ambulances)

Zbog povećanja vidljivosti i prepoznatljivosti medicinske vozila mora biti ili žuta (RAL 1016) ili bijela (RAL 1015) ili fluorescentna crvena (RAL 30). Kada je osnovna boja vozila bijela tada uređaji boje vidljivosti noću treba primijeniti mik reflektivnim slovima, brojkama ili simbolima registriran. Plavi reflektivni znak "Star of life" treba prim, medicinskih vozila.



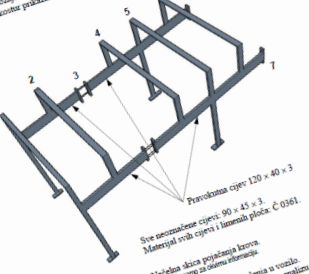
Slika 1.1. Izgled plavog reflektivnog znaka "Star of life"



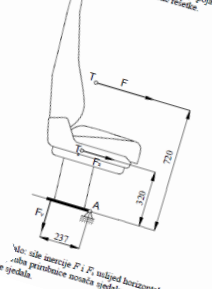
Slika 1.2. Fotografija vozila s odgovarajućim obilježjima

PROVJERA ČVRSTOĆE SIDIRIŠTA SJEDALA

Čvrstoća sidrišta sjedala provjerava se za namjeravani oblik. Prema ECE pravilnici 17.04... Kako za ovakva sigurnost... Provjereno je... Dostupni su prikazi... Provjerena je... Navedeni su... Osim toga... Za više informacija...



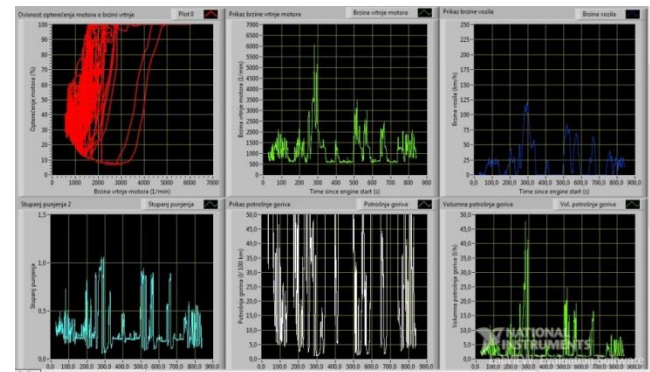
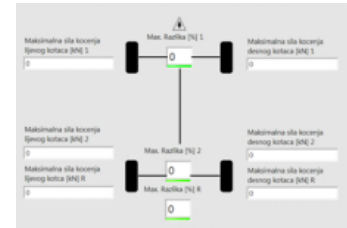
Slika 2. Navedeni skici pojačanja krova... Navedeni skici... (ISO 151208)



Može se... Navedeni su... (ISO 151208)

Projects completed:

- Engine data acquisition
- Data acquisition via EOBD / CAN
- Braking force at the vehicle wheel - control, regulation and data acquisition
- Determination of engine performance on the basis of vehicle acceleration
- Test rig for vehicle set anchor bolts - control, regulation and data acquisition
- Device for testing complete recuperation of braking force at the vehicle wheel
- Engine indication



Inland

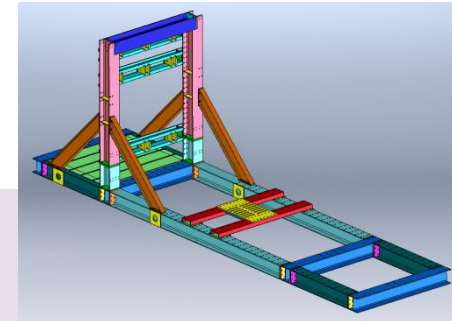
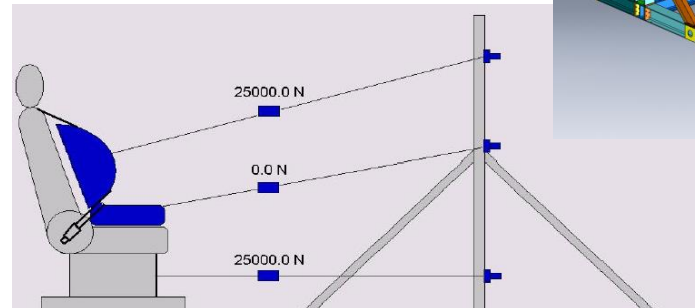
- Faculty of Mechanical Engineering and Naval Architecture
- Faculty of Electrical Engineering and Computing
- Kvočić d.o.o.
- National Instruments
- ...



International

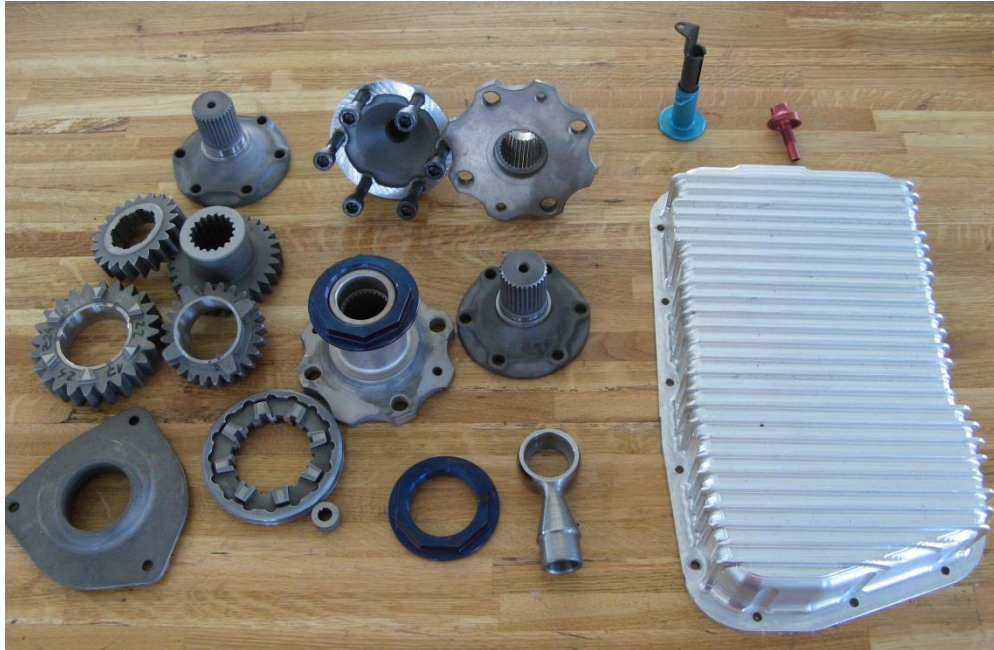
- AVL Ges.m.b.H. (A)
- PROSTEP AG (D)
- Triple Ing GmbH (D)

- Hydraulic dyno 400 kW, 10.000 rpm
- Eddy current dyno 20 kW, 10.000 rpm
- AVL Puma Test Bed Automation
- Test rig for vehicle seat anchor bolts
- GOM Tritop
- NI equipment



Adolo 7 partner - Kvocic Ltd.

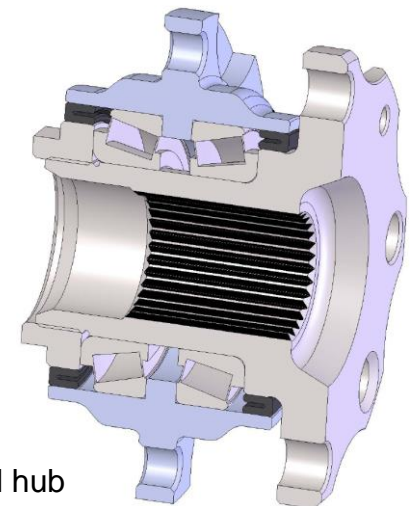
Development and individual production of high-tech components



Race car power train and engine components



Race car suspension components



Race car wheel hub

Adolo 7 partner - **Kvocic Ltd.** Race-car tuning and support service



Small Machining Center
FANUC
ROBODRILL α-T14iFLe
Stroke
X700 x Y400 x Z330mm

Croatian Hill Climb Championship



European Hill Climb Championship
Croatian Hill Climb Championship



Wire-cut Machining Center
FANUC
ROBOCUT α-0iC
Stroke
X320 x Y220 x Z255mm
angle up to 30°
UV-axis á 120mm

European Truck Racing Championship





Prof. **ZORAN LULIĆ**, Ph.D.

Adolo 7 Ltd.

Faculty of Mechanical Engineering and Naval Architecture

University of Zagreb

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Croatia

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Tel: +385 1 61 68 177

GSM: +385 91 6523 419

