



*Ikt.: 128-DRTT/2007 — Irt.: 2007/10/8*

29<sup>th</sup> October, 2007, Dunaújváros

## FINANCIAL REPORT

### – PHASE 1. –

Name of Project: DURATT

Registration number: RET-09/2006

Number of spell: 1

Date of reporting obligation:

22<sup>nd</sup> December, 2006. – 30<sup>th</sup> November, 2007.

Members of the Consortium:

College of Dunaújváros,

ISD DUNAFERR Inc.,

Paks Nuclear Power Plant Inc.,

ALCOA-KÖFÉM Ltd.,

Hungarian Bus Ltd.,

Robert Bosch Elektronika Ltd.,

Project leader: College of Dunaújváros

Website: <http://duratt.duf.hu>

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APPENDIX

1. FUNDAMENTAL RULE
2. CONSORTIUM AGREEMENT
3. BILATERAL CONTRACTS between the COLLEGE OF DUNAÚJVÁROS and
  - A. the ISD DUNAFERR Inc,
  - B. the Hungarian Bus Ltd.,
  - C. the Paks Nuclear Power Plant Inc.,
  - D. the ALOCA-KÖFÉM Ltd.
4. BILATERAL CONTRACT between the COLLAGE OF DUNAÚJVÁROS and the Robert Bosch Electronic Ltd. (RBHH)
5. **“Procurement Agreement”** was signed so that the public procurement process for the **“Gleeble 3800” thermo-mechanic simulator**
6. The Center and Dynamic Systems Inc. (NY 12140 USA) signed a **conveyance contract for the “Gleeble 3800” device.**

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**Executive summary**

Exec In the second half of 2006 the Agency for Research Fund Management and Research Exploitation provides contractual funding for the establishment of a Knowledge Center under the name of Dunaújváros Regional Material Science and Technological Knowledge Center. The central element of the project on the one part is the installation and scientific system implementation of the Gleeble 3800 thermo-mechanic simulator – enabling combined application of physical and mathematical modeling opening up a new dimension for the R&D activity of the region at small and large – and on the other part the finding solutions for the project based research tasks.

Due to the late signing of the advocacy contract (RET-09/2006, titled “Regional Knowledge Center”, signed on 22-12-2006) and the early hesitation of partners, the project actually started in January 2007. With accordance of the advocate announcement the central element of the project was the high-value Gleeble device, and the project was based around the acquisition of this. The consortium members submitted activities consistent with the 800 million HUF advocacy budget in the original RET-09/2006 tender submitted by the College of Dunaújváros. The tender would have enabled the College to buy the Gleeble mechanical-physical simulator without external support and to conduct experiments for other members of the consortium, who in parallel would have conducted the monitoring of results from the simulator research in practice.

Since the tender was signed with a reduced advocacy budget and not the original sum, yet with the same original goals, the College of Dunaújváros and its consortium members had to realize that they can only purchase the thermo-mechanic modelling device together. The only possible way of achieving this – on which the final consortium agreement and the bilateral contracts were based – is that the modelling device is purchased by the College of Dunaújváros and the ISD DUNAFERR Inc. together, The ALOCA KÖFÉM Ltd and the Paks Nuclear Power Plant Inc. renounces his own share of advocacy and his own use of self utilization, and uses this budget to commission research from (lay charge on) DURATT, operating within the framework of the College of Dunaújváros.

Thus the “Consortium Agreement” between the “Beneficiaries” and the bilateral contracts between the “Head of Consortium” – the College of Dunaújváros – and the “Advocated” consortium members were signed with respect to the points mentioned above. To make the contracts more transparent, DURATT runs with two topic-numbers, one of the topic-numbers refers to the subsidiary sums only (P0035), the other topic-number identifies “external commissions” (P0048).

During the realization of the project we focused on two major points in terms of finance. One was the acquisition of the high-value device and the transaction of relating investments, where both the device acquisition and the appropriate facility installation are conducted through the public acquisition process. In the case of the investment we paid special attention to the appropriate demarcation, since the reconstruction of the hosting facility is being carried out at the same time in a PPP construction.

The transport of the device takes up to 7 months, which presents a difficulty in pay-off, since only 20% of the acquisition value was paid until the end of the reporting period for order, and only 70% for manufacturing fulfillment and yet the device arrives to Hungary only in January. Since the

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successful installation is only likely in February, which is the midterm of the phase, we plan to present an intermediary report in the interest of adequate settlement of payments.

Our second important point in terms of finance was to establish financial backing for DURATT so it is maintainable, thus we sought out further resources that can be organically joined to the area of research, but represent a looser financial partnership. This is how we managed to launch a research of great volume together with the Robert Bosch Elektronika Ltd., which amounts to 275 million HUF plus taxes and runs until the 15<sup>th</sup> December 2012. Additional smaller commissions were also submitted by consortium members (listed on separate topic-number), which helped the clearing of salaries for professionals working on the project, thus bringing disassociated DURATT costs to minimal.

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**R&D activity**

1. Gábor Ladányi, Péter Madarász, János Halas, László Valenta, Tamás Zahola: Static experiment in pressing machine's main elements, ALCOA, 2007. október
2. Dénes Zsámbók, Péter Farkas, Balázs Verő: Physical modeling of congelation, hot and cold formation, annealing, welding and surface treatment processes at the necessary temperature defined by the industry, recovering the possibilities of application of equipment with flowing electricity and high-speed hydraulic forming devices under varying shape changing cycles and speed in the aluminum industry and the ALOCA-KÖFÉM Inc., - based on scientific literature
3. Dénes Zsámbók, István Jenei, Balázs Verő: Quick shape-changing test application on the physical modeling of bunker and welding materials used in the power-plant - based on scientific literature, and application possibilities in the Paks Nuclear Power Plant Inc.
4. Zsolt Csepeli, Balázs Verő, Ottó Szabados: Physical modeling of congelation, hot and cold formation, annealing, welding and surface treatment processes at the necessary temperature defined by the industry, recovering the possibilities of application of equipment with flowing electricity and high-speed hydraulic forming devices under varying shape changing cycles and speed in the metal industry and the ISD DUNAFERR Inc, - based on scientific literature
5. István Jenei, Tibor Volosinfor the Robert Bosch Electronic company about the researches work and development, related to disengage of the electric connection made by grout and extent deviation of dashboards

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**Program, Presentation, Publication**

1. Madarász Péter – Ladányi Gábor: Feltöltőhegesztéssel javított gépalkatrészek lehűlésének szimulációja végeselem módszer segítségével, Hegesztéstechnika, 2007 III. szám, pp:
2. Termikus-mechanikus szimuláció alkalmazása Al-alapú ötvözetek szerkezetének és tulajdonságainak optimalizálására. 2007. április, ALCOA képzési központ, Székesfehérvár
3. Gleeble-szimulátor felhasználása atomerőműi anyagok kérdés- és problémakörében. 2007. április, Paksi Atomerőmű Zrt, Paks.
4. Dr. Molnár László – Madarász Péter – Valenta László – Volosin Tibor: A fékezés és az üzemi gumimelegedés termikus hatása az öntött és préskovácsolt alumínium és acél felnyire. Tudomány hete rendezvénysorozat, DURATT szekció, 2007. november 12., Dunaújváros
5. Ladányi Gábor, Madarász Péter, Halas János, Valenta László, Zahola Tamás: Alumínium prés fődarabok szilárdsági ellenőrzése, Tudomány hete rendezvénysorozat, DURATT szekció, 2007. november 12., Dunaújváros
6. Verő Balázs: A Fizikai szimuláció helye és szerepe a műszaki anyagtudományban, Tudomány hete rendezvénysorozat, DURATT szekció, 2007. november 12., Dunaújváros
7. Csepeli Zsolt, Verő Balázs, Zsámbók Dénes: A Gleeble 3800 termomechanikus szimulátor acélipari alkalmazásai, Tudomány hete rendezvénysorozat, DURATT szekció, 2007. november 12., Dunaújváros
8. Jenei István, Valenta László: A DURATT keretében megvalósuló anyagtudományi modellezés (GLEEBLE technikai bemutatása): Tudomány hete rendezvénysorozat, DURATT szekció, 2007. november 12., Dunaújváros
9. Jenei István, Pór Gábor, Valenta László: Élettartam kutatás a Robert Bosch Elektronika Kft. részére, Tudomány hete rendezvénysorozat, DURATT szekció, 2007. november 12., Dunaújváros
10. Ladányi Gábor: A rugalmas-képlékeny peridinamikus anyagmodell vizsgálata, Tudomány hete rendezvénysorozat, DURATT szekció, 2007. november 12., Dunaújváros
11. Ladányi Gábor: A rugalmas-képlékeny peridinamikus anyagmodell vizsgálata, Tudomány hete rendezvénysorozat, OAK, 2007. október 9., Siófok
12. A Dunaújvárosi regionális Anyagtudományi és Technológiai Tudásközpont bemutatása, Karbantartók és Javítók Országos Konferenciája, 2007 január, Dunaújváros

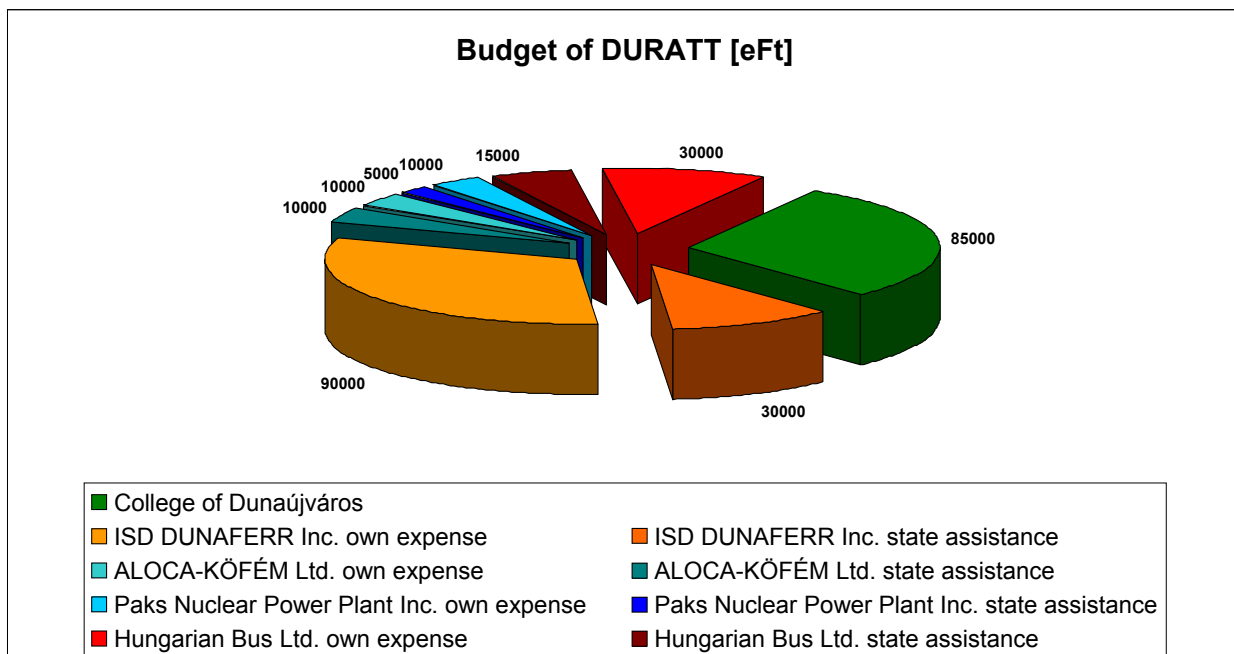
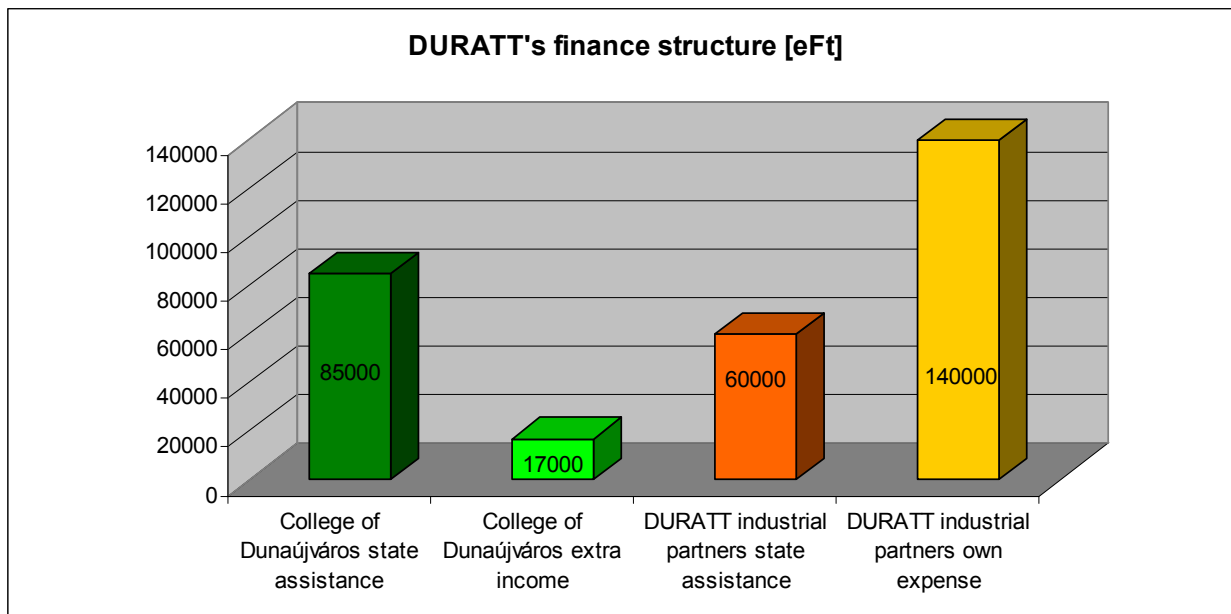
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Accomplishment-indicator

Accomplishment-indicator		
Eredmény	Tény	Terv
<b>A projekt hasznosítható eredménye [db.]</b>		
Kifejlesztett új		
Application	1	1
Prototype	2	1
<b>R&amp;D activity [db.]</b>		
publication		
Hungarian	11	10
International	1	5
Report	5	4
<b>Human resources [fő]</b>		
A projektbe bevont		
PhD-students	2	2
	2	3
<b>Gazdasági hasznosítás</b>		
A központi tevékenységben résztvevő [db]		
kutatóhelyek száma	2	1
vállalkozások száma	5	4
A projekt eredményeként létrejött		
Többlet árbevétel (eFt)	17 MFt	0

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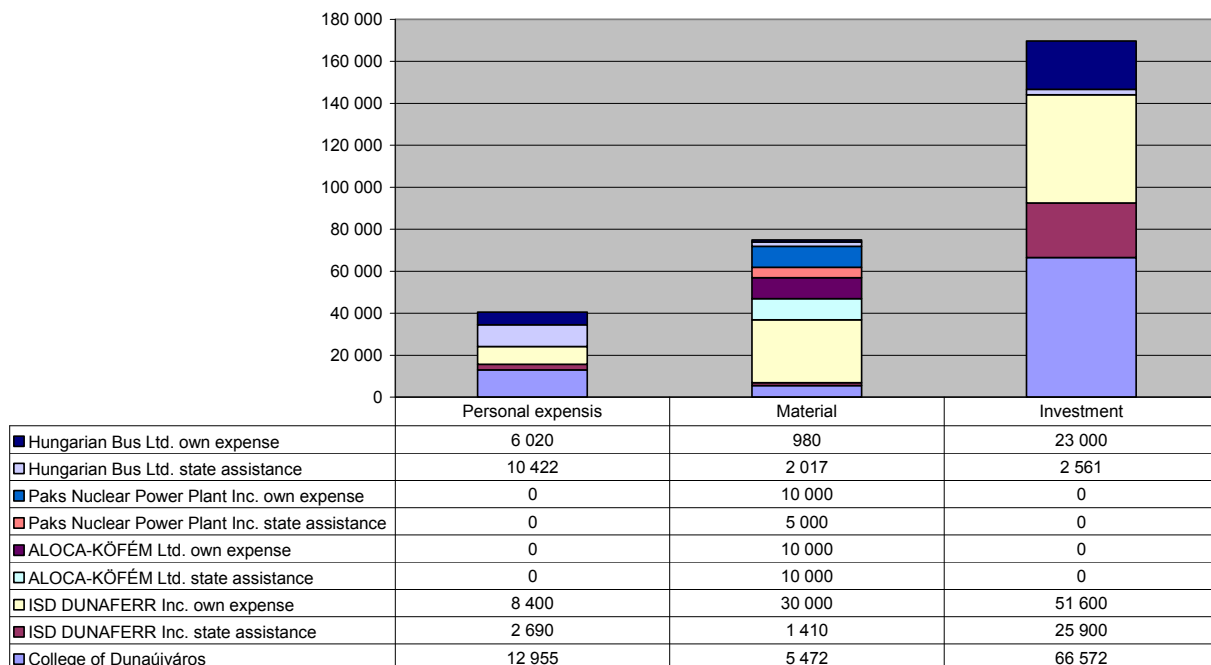
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**State assistance spending by type of budget [eFt]**



**Budget in consortium members [eFt]**

