



Transport Information Days

18-19 July 2012



Surface Transport Brokerage Event

▲ SME Partner Presentation ▲



About Us

- Research-intensive SME with Commercial Applications Development & Services.
- Established in 1995 and based in Athens, Greece.
- RTD Department -
 - In-house applications development,
 - Provision of specialized RTD services to clientele,
 - Participation - contribution of expertise, know-how, and applications to RTD consortia.
- Active in EC Framework Programme for research since FP4, in Aeronautics, Transport, ICT, Security, Energy, Environment, Factories of the Future (PPP).
- Commercial Applications & Services Department -
 - Engineering, Measurements (Scientific, Workplace), and Support services,
 - Commercial representation of Industrial / Scientific Instrumentation manufacturers & Vendors to markets in Greece and S.E. Europe.



FP4 - FP5 - FP6 - FP7 Experience (1/2)

ACTUATION 2015

FP7 - AAT - L2 Collaborative, Goodrich Actuation Systems SAS

- **Modular Electro Mechanical Actuators for ACARE 2020 Aircraft and Helicopters**

CRESCENDO

FP7 - AAT - L2 Collaborative, Airbus Operations Limited

- **Collaborative and Robust Engineering using Simulation Capability Enabling Next Design Optimisation**

MOET

FP6 - AAT - I.P. - Airbus Operations SAS

- **More Open Electrical Technologies**

TATEM

FP6 - AAT - I.P. - Smiths-Aerospace (now GE Aviation)

- **Technologies and Techniques for New Maintenance Concepts**



FP4 - FP5 - FP6 - FP7 Experience (2/2)

iProD

FP7 - ICT - L1 Collaborative

- **Integrated Management of Product Heterogeneous Data**

ADOSE

FP7 - ICT - L1 Collaborative Fiat CRF

- **Reliable Application Specific Detection of Road Users with Vehicle On-board Sensors**

SENSE

FP6 - IST - STREP

- **Smart Embedded Network of Sensing Entities**

SWOP

FP6 - IST-NMP - GROWTH

- **Semantic Web-based Open Engineering Platform**

MESEMA

FP6 - AAT - STREP

- **Magnetoelastic Energy Systems for Even More Electric Aircraft**

HEACE

FP5 - AAT - GROWTH

- **Health Effects in Aircraft Cabin Environment**

DISC

FP4 - NNE JOULE C

- **Complex Distillation Columns**



Fields of Expertise (indicative)

Computational Intelligence – Artificial Intelligence Techniques

- Modeling - Simulation - Verification & Validation
- Control
- Pattern Recognition
- Fault Detection & Prognostics
- Decision - Making

Multi-objective Evolutionary Optimization Algorithms

- Multi-disciplinary Design Optimization (MDO)
- Multi-criteria Decision Analysis (MDA)
- Process Optimization
- Optimal Control
- Multi-criteria Sensor & Actuator Arrays Topology Optimization

Intelligent Adaptive Control

Acoustics & Vibration

Human Factors & Advanced Human Response Modeling

Signal & Data Analysis Techniques and Fusion

Monitoring - Detection - Prediction

Structural Health Monitoring (SHM)

Health Usage Monitoring (HUMS)

Renewable Energies & Tri-Generation



Applications Developments (indicative)

Flight Physics – Active Flow Control

- Adaptive Optimized Controllers
- Multi-objective AFC Arrays Optimization

Advanced Active Vibration & Noise Control (AVNC)

- Adaptive Optimized Controllers
- Multi-objective AVNC Arrays Optimization
- Advanced Techniques for AUTOMATED SYSTEM IDENTIFICATION & CONTROLLER GENERATION for AVNC Systems

Fault Detection - Health Usage Monitoring

- Artificial Intelligence-based techniques and applications for on-line (De-)Centralized Fault Detection - Classification - Localization - Prognostics - Verification & Validation applications e.g. → Electrical and/or Mechanical (Vibration, Noise-based) systems or networks for Aircraft, Vehicles, Machinery, other

Structural Health Monitoring

- Multi-objective Active or Passive SHM Arrays Topology Optimization
- Integrated -Simultaneously Optimized- SHM+AVNC Arrays or Energy Harvesting Networks, i.e., integrated common optimized arrays per multiple objectives and constraints

Multi-Parameter Human Response Modeling & Aircraft Environment Design Verification & Validation

- Complex Multi-Dimensional Human Response Models (Environmental, Psychological, Physiological, Task Load Parameters) for (A) Pilots- Cabin Crews-Passengers Workplace Comfort, Health, and Performance Assessment, and (B) Aircraft Environment Design V&V

Artificial Intelligence-based Sensors Middleware for Monitoring-Detection- Localization-Tracking

Wind Energy , Solar Energy , Capillary Pumps Applications



SST - GC - TPT Call 6 Topics of Interest

ECO-INNOVATION

- SST.2013.1-1 RAILWAY INFRASTRUCTURE OPTIMISATION AND MONITORING FOR FURTHER NOISE REDUCTION
- SST.2013.1-2 TOWARDS THE ZERO EMISSION SHIP
- **GC.SST.2013-1 FEASIBILITY ANALYSIS AND TECHNOLOGICAL DEVELOPMENT OF ON-ROAD CHARGING FOR LONG TERM ELECTRIC VEHICLE RANGE EXTENSION**
- GC.SST.2013-3 FUTURE LIGHT URBAN ELECTRIC VEHICLES
- **GC.SST.2013-7 TECHNICAL AND OPERATIONAL CONNECTIVITY IN INTERMODAL FREIGHT TRANSPORT**

SAFE AND SEAMLESS MOBILITY

- SST.2013.2-2 NEW CONCEPTS FOR RAILWAY INFRASTRUCTURE AND OPERATION
- SST.2013.3-1 MANAGING INTEGRATED MULTIMODAL URBAN TRANSPORT NETWORK
- SST.2013.4-1 SHIPS IN OPERATION

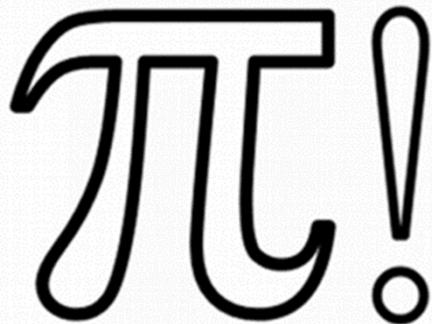
COMPETITIVENESS THROUGH INNOVATION

- SST.2013.5-2 LOW COST FLEXIBLE AUTOMATION AND MECHANISATION IN SMALL TO MEDIUM SHIPYARDS
- SST.2013.5-3 INNOVATIVE, COST-EFFECTIVE CONSTRUCTION AND MAINTENANCE FOR SAFER, GREENER AND CLIMATE RESILIENT ROADS

HORIZONTAL ACTIVITIES FOR IMPLEMENTING THE TRANSPORT PROGRAMME

- TPT.2013-1 TECHNOLOGY TRANSFER IN THE AREA OF TRANSPORT

THE OCEANS OF TOMORROW -2013: Topics 2 , 3 , 4



PARAGON S.A.

Harry Tsahalis

Head of Research & Development

Tel. +30 210 2220 008

Email. htsahalis@paragon.gr

[Links to Complete Presentation & Info](#)



- FP7 Partners Service: PARAGON S.A.

<https://cordis.europa.eu/partners/web/paragonsafp7partners>

- LinkedIn: Harry Tsahalis

http://www.linkedin.com/profile/view?id=34767318&trk=tab_pr

