

IPPT PAN
engagement towards
4th Maritime Transport call of FP7

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National Contact Point
for the Research Programmes of the EU
Instytut Podstawowych Problemów Techniki
Polskiej Akademii Nauk (IPPT PAN)



- **About IPPT PAN**
 - Smart Technology Center
 - About NCP Poland
- **Polish Maritime SMEs**



Expertise

- theoretical and applied mechanics,
- theory of coupled mechanical and physical fields,
- theoretical and experimental mechanics of materials and structures, computational methods in mechanics,
- acoustoelectronics,
- ultrasonic medical diagnostics.

Actual research targets

- research and development of advanced multifunctional materials,
- numerical methods in structural mechanics and material modelling,
- development of novel measuring techniques,
- identification of mechanical properties of materials,
- construction of diagnostic equipment (particularly in acoustics),
- application of the so-called smart technologies,
- laser methods of surface modifications,
- development of the ultrasonic and optical methods for bio-material structure analysis,
- modeling cell signaling paths and development of micro fluidic devices for manipulating and diagnostics at cell level.

Present in Framework Programmes since FP3.

Participation in a large number of projects (both research and supporting). Coordination of one NoE (KMM-NoE, evolved into KMM-ViN – Virtual Institute) and STREP projects.

More information: www.ippt.gov.pl





Smart Technology Centre

SMART-TECH

Department of Intelligent Technologies, Institute of Fundamental Technological Research Polish Academy of Sciences

basic facts:

- Head: **prof. Jan Holnicki-Szulc**, e-mail: holnicki@ippt.gov.pl, www: <http://smart.ippt.gov.pl>
- 7 senior researchers, 14 Ph.D. students,
- over 30 completed and running research projects, including 6 FP6 and FP7 projects,
- over 20 academic and industrial partners.

our mission: ***safety and integrity of engineering systems***

our expertise:

- Structural Health Monitoring
- **Adaptive Impact Absorption**
- Vibration Control
- **Load Detection**
 - MR fluids
 - Piezo-electric sensors & actuators
 - Micro-Pyro-Systems
 - numerics (VDM, soft-computing)

Topic in interest: OCEAN.2011-1. Multi-use offshore platforms



Active mitigation of ship and offshore structure response



Motivation is to respond to the requirement for high impact energy absorption.

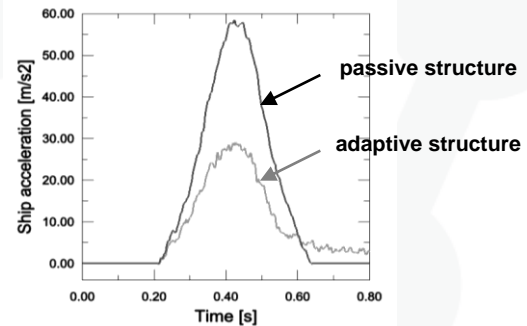
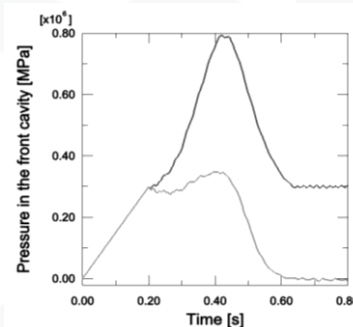
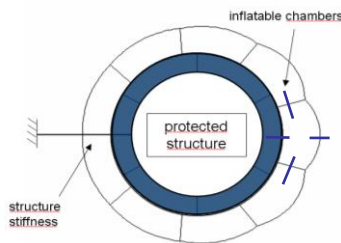
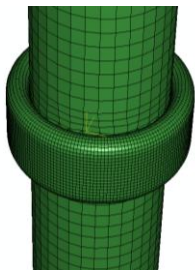
In contrast to the standard passive systems Adaptive Impact Absorption (AIA) approach focuses on active adaptation of energy absorbing structures.

AIA devices are equipped with:

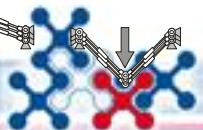
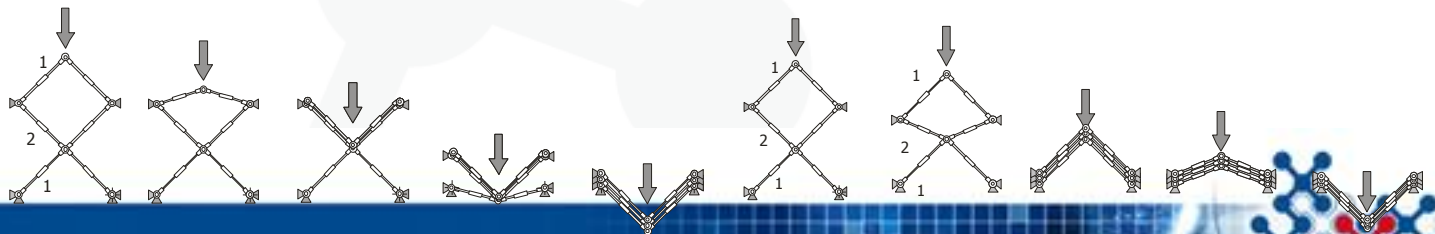
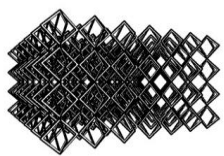
- sensor system detecting and identifying impact in advance
- controllable semi-active dissipaters with high ability of adaptation to extreme overloading

- field of application:**
- protection against ice loading in winter,
 - protection against collisions of small service ships,
 - adaptive docking systems in harbours

Adaptive Inflatable Structure - can change its properties due to applied loading by controlling inflation and pressure release



Adaptive Multifolding Structures – provide high level of adaptation and large displacement due to different folding modes



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- Appointed in 1999 by the Ministry responsible for scientific research;
- Located in the Instytut Podstawowych Problemów Techniki, Polska Akademia Nauk
- Plays a role as the coordinator of a country-wide network dealing with European Programmes (FP7, CIP EIP and ICT-PSP, EURAXESS, Structural Funds, Polish Technological Platforms)
- Headquarter in Warsaw with 10 regional Consortia of Contact Points (30 Regional Partners) and 23 Thematic Contact Points dedicated to industry at National Technology Platforms

Tasks

supporting the Polish R&D sector in active participation in the European Programmes such as FP7, CIP, SF through:

- training
- consultancy
- partner search service
- promotion of international cooperation
- encouraging project consortia creation



I Promotion:

- website providing information on FP7, CIP, SF
- database about the Polish R&D institutions interested in international cooperation
- publications

II Organisation of events dedicated to FP7, CIP, SF:

- Info Days
- workshops & trainings
- national & international conferences

III Consultations in proposal preparation and project implementation for:

- individual researchers
- research institutions and universities
- enterprises

IV Support in legal and financial issues

Experience

- **over 30 coordination and supporting projects in FP5 and FP6 (some of them were coordinated by Polish NCP)**
- **currently, in 14 ongoing projects (some of them being coordinated).**
- **Highly qualified staff includes experienced financial and legal departments**

27 Polish Technology Platforms operate in:

I. European dimension

- active participation in the structures of European Technology Platforms
- defining and realisation of European Strategic Research Programmes
- participation in Framework Programmes of the EU

II. National dimension

- preparation of national R&D programmes
- integration of economic and research partners
- optimal use of structural funds

NCP Poland leads the secretariat of the Coordination Committee of the PTP which represents all 27 PTPs.



Zbigniew Turek;

- National NCP Coordinator and expert to EC Transport PC;
- Working since FP5 (1999)
- Coordinator of four FP5/FP6 SSA projects, partner in 8 CA, SSA, ETI and CSA-SA projects (2 of them still running)

Mikołaj Pyczak

- Working since FP6
- Similiar project experience

Experiences:

- Continuous cooperation with national and EU Technology Platforms
- Good contacts with industry (SMEs included) and R&D players at national level – result of previous projects and own activities
- Cooperation with Polish ministries and financing agencies (ERA-Net scheme) – creation of strategies and programmes at national level



Topics of interest:

- SST.2011.3.4-2. Support action for coordination, dissemination and evaluation, CIVITAS Plus
- SST.2011.5.2-1. Strengthening the European maritime transport sector competitiveness
- SST.2011.5.2-4. Exploring and fostering international collaboration in the waterborne transport sector
- SST.2011.6-1. Supporting the organization of the TRA 2012 conference and other research relevant events

Skills and expertise offered to CSAs projects:

- training
- consultancy
- partner search service
- promotion of international cooperation
- encouraging project consortia creation

Good contacts with:

- other transport NCPs in Europe and Third countries
- national and European Technology Platforms
- era nets communities
- chambers of commerce, clusters and R&D units
- Others



Current projects:

ETNA – European Transport NCP Alliance

Aims at the development and implementation of a coordination mechanism for stimulating closer cooperation among National Contact Points for the theme “Transport” in FP7 and to facilitate the improvement of the overall quality of NCP services across Europe.

Partner Search tool for 4th Transport call available at project website: www.transport-ncps.net

New submissions are welcome!

Star-Net Transport - European Network to Support the Sustainable Surface Transport SMEs

The strategic objective of the Star-Net transport is to increase the participation of surface transport-related SMEs in the SST programme and to be the first step towards the formation and development of a consolidated structure for support of SMEs in Europe.

Short information about three maritime SMEs:

- Safety at Sea
- Hamworthy Baltic Design Centre
- StoGda Ship Design & Engineering



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Expertise

- ✓ Water Transport/ Ship Design, Shipbuilding, Engineering, Consulting,
- ✓ Onshore LNG terminals,
- ✓ 3D models of construction and equipment of ships,
- ✓ Ships stability calculation in specialised software (Napa),
- ✓ 3D models of onshore LNG terminals,
- ✓ Design of environmental friendly ships fuelled by gas (Cng Or Lng)

Collaboration sought

- ✓ New concepts of sea/river gas carriers.
- ✓ New concepts of gas fuelled ships for sea and inland waters.
- ✓ Gas fuelled ships for intermodal transport within big cities

Topics of interest

SST.2011.1.1-1. Green retrofitting through optimization of hull-propulsion interaction

SST.2011.1.1-2. Retrofitting of existing ships with green technologies

SST.2011.1.1-3. Towards zero emission marine engines

SST.2011.5.2-3. Cost-effective modernization of the inland fleet for freight transport

OCEAN.2011-1. Multi-use offshore platforms

Expertise

Ship Concept Design

- ✓ *Rules compliance / safety evaluation*
- ✓ *Ship performance evaluation*

Consulting Engineering

- ✓ *Naval Architecture / Ship Repairs & Conversions / Problem Rectification*
- ✓ *Risk Assessment*

Marine Accident Investigation

- ✓ *Services*

Research & Development

Software

- ✓ Proteus; A non-linear code to predict ship motions in realistic environments in intact and damaged conditions.
- ✓ EVi; A pedestrian dynamics simulation tool utilising multi agent modelling techniques and continuous space.
- ✓ iStand; Decision Support System capable of providing timely and useful advice to the bridge in time of crisis.

Experience in FP's: two CP-FP projects in FP7 (Transport)

Collaboration sought

Development of:

- ✓ IT
- ✓ design processes
- ✓ computing tools

Topics of interest

SST.2011.1.1-1. Green retrofitting through optimization of hull-propulsion interaction

SST.2011.5.2-1. Strengthening the European maritime transport sector competitiveness

SST.2011.5.2-3. Cost-effective modernization of the inland fleet for freight transport



Expertise

Shipbuilding ;

- ✓ *Newbuilding (containers, tankers/product and chemical carriers, bulk carriers, Ro-Ro vessels, ferries, ...)*
- ✓ *Ship-repair and conversions*
- ✓ *Construction survey*

b) Offshore and technical vessels

- ✓ *floating coal loading/unloading units*
- ✓ *container pontoon (with or without rive, with or without cranes)*
- ✓ *launching barges*
- ✓ *drilling units blocks*

c) Shore installation :

- ✓ *Natural gas installations*
- ✓ *Chemical installation (3 D detail engineering of pipelines and its supports)*

Experience in FP's: two CRAFT projects in FP6

Thank you for attention

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National Contact Point for Research Programmes of the EU

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