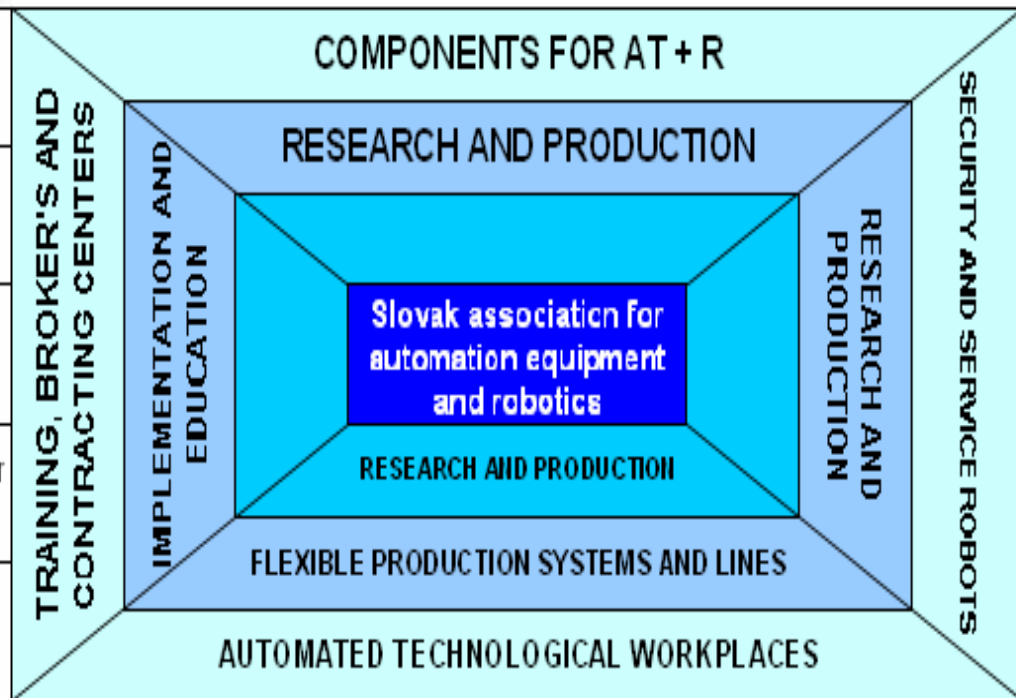




Mechatronic rotary and linear positioning modules, multifunction
Servomotors, actuators, transmission equipment, bearing reducers
Sensorial systems, measuring of speed, position, physical states
Control systems and software



Training center of mechatronics and automated control
Training center of automated production systems
Training center of robotized measurement workplaces
Broker's center for know-how transfer in area of AT+R
Regional training center of AT+R



Service robots
Security robots
Autonomous orientation system
Communication and control modules for adaptive control
Drive and positioning modules for security and service robots



Robotic workplaces in welding
Automated mounting workplaces and lines
Automated inspection, control and test
Automated systems of control, diagnostics
Automatization of operation and intermediate operation control
Precision positioning equipment for machining, mounting and welding
Automated equipment for manipulation with and tool



Intelligent components for building manufacturing systems and productive collaborative development

Need for the project:

Research of adaptive, control functions and optimal aggregations of mechatronic elements for achieving precision parameters, performance and dynamic characteristic by adaptive control systems

Objectives:

Preparing the new concept of building positioning units based on the aggregation of functions of mechatronic components into compact, multifunctional units with a high torque and performance density, positioning precision and dynamic stability of their run (Mechatronic and multifunction rotary position unit, compact actuator, multi-axis unit)

Relevance to the call:

- 1. NMP-2007-3.2-1** The research should initially focus on the development of "adaptronic" modules and interfaces and their integration in intelligent manufacturing equipment through the development of active intelligent components
- 2. NMP-2007-3.3-1** Intelligent customer driven innovation focuses on the integration of customer influence in the design and development process and the related demands of the manufacturing and logistic processes

Budget: 2 M€ **Duration:** 32 months **Number of partners:** min 6

Rapidly configurable production system

Need for the project:

Development of production technologies and equipment for flexible and high precision production and assembly

Objectives:

Preparing the new concept for flexible production system with high precision and productivity for bearings, precision gear mechanism

Relevance to the call:

- 1.NMP-2007-3.2-1 Deliverable including prototype adaptronic modules and application of their usage in machine and production system
2. NMP-2007-3.4-1 Rapid manufacturing concepts for small series industrial production

Budget: 5 M€ **Duration:** 36 months **Number of partners:** min 10



Additional expertise needed:

- Adaptive control
- Adaptivity of components (motion position, speed, accuracy)
- Modularity (sensor-actuator)
- Research and production partner in area from machine tools and robotics
- Research in precision grinding and assembling technology

Association members:

SPINEA s.r.o. Prešov, Slovakia – coordinator, <http://www.spinea.sk>

Contact person: **Prof. Čop, gregova@spinea.sk**

- **ZŤS VVÚ KOŠICE a. s. , <http://www.ztsvvuke.sk/>**

- **MATADOR Automotive, a.s., Dubnica nad Váhom, <http://www.matador-automotive.sk/>**

- **Welding Research Institute – Industrial Institute of SR, Bratislava, <http://www.vuz.sk/>**

- **Slovak Technical University Faculty of Electrical Engineering and Informatics,
Bratislava <http://www.fei.stuba.sk>**

- **EVPÚ a. s., Nová Dubnica, <http://www.evpu.sk>**

- **Technical university, Faculty of Mechanical Engineering, Košice,
<http://www.sjf.tuke.sk/kvtar>**

- **TC CONTACT, spol. s r.o., Nové Mesto nad Váhom, <http://www.tccontact.sk>**