



ICT research & development in Serbia

Milan Zdravković
Innovation Center for Information Technologies

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Where are you today ?



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Overview of national IT R&D vendors market in 2007 (IDC Adriatic, November 2007)

- **ICT market size and dynamics**
 - Increasing
 - 460 M\$ (280 M\$ in 2004), estimated 556 M\$ in 2008 (21%)
 - Market growth in 2007 – 37%, (Hungary 7%, EU 3.6%)
 - Unbalanced dispersion
 - 56% Belgrade, 15% Vojvodina, 13% Niš, 16% other
- **Market structure**
 - 69% (75%, 2004) of a market belong to HW
 - 11% (15 %, 2004) - proprietary SW
 - **20% (9.5 %, 2004) - IT Services** (20% Slovenia, 35% Hungary, 40% Greece)

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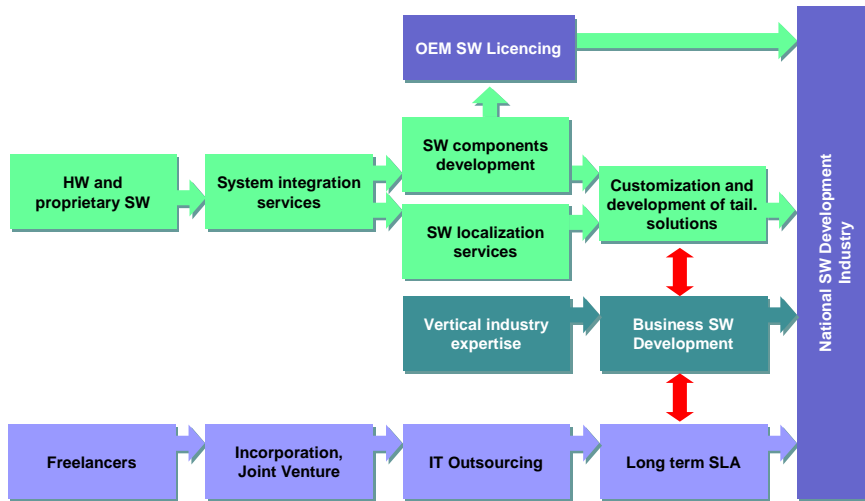


Added Value ICT Development Services

- Product (Solution) Development
- ICT Research
- System Integration and Customization
- Outsourced Development
- Quality Assurance
- Education and Training

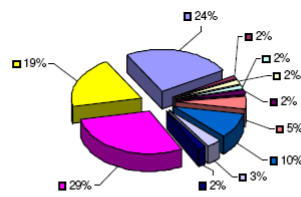
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A pathway for development



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Overview of ICT research



Computer hardware and system – 15 projects	Digital libraries and content – 1 project
Electronics – 1 project	Expert systems – 1 project
GIS – 1 project	Internet technologies – 3 projects
Microelectronics – 6 projects	Nanotechnology – 2 projects
Robotics – 1 project	Software – 18 projects
Telecom – 12 projects	

- National ICT projects
- Data on privately financed research is not available
 - Embedded systems, computing and control, intelligent infrastructure
- International
 - FP5,6 – 17 organizations in 14 projects, 4 privately own firms

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National IT&RD vendors market – Strengths

- Educational system develops staff with general knowledge based on strong math background, capable to specialize in any area very fast.
- Very good knowledge on using commercial software, due to piracy rate in past period.
- English language fluency.
- Significant number of self-educated freelancers, mostly technical faculty's students.
- Largest cities – university centers are well connected by road infrastructure
- Universities are equipped with computers and broadband internet, internet infrastructure is developed.

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National IT&RD vendors market – Weaknesses

- Lack of highly educated staff.
- Current university curriculums does not reflect market requirements for a staff.
- Large corporations are mostly software importers.
- Small and medium businesses sector as a largest buyer of IT products and services globally is not developed in Serbia.
- Low efficiency of IPR state agencies, particularly in PCT (Patent Cooperation Treaty) related activities.
- Very small number of ISO or CMM based implemented quality systems and processes.
- Lack of IT vendor management social competences.
- Low degree of collaboration within sector.

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National IT&RD vendors market – Opportunities

- Global IT outsourcing market, as well as awareness of the need to outsource grows rapidly.
- It is expected that outsourcing development projects would move fast to Serbia, after EU succession of Bulgaria and Romania, due to salary growth.
- There is a growth of demand in IT innovations at the global market. It makes a number of opportunities for fast kick-off of global IT brand in software industry.
- During software legalization process, it is expected that the local demand for open-source server software would grow.
- Fund Raising for ICT R&D
- As sector clearly streamline into local and global market oriented companies, potential for profitable relations between players grows.
- Incentives

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National IT&RD vendors market – Threats

- There is a risk that expected growth of demand for outsourced development would not be met due to lack of highly educated staff.
- Brain drain.
- Lack of understanding of IT role in a government processes and relations.
- Lack of knowledge on data protection, non-disclosure agreements and security policy could lead to risks of endangering of information confidentiality.
- Continuous lack of highly educated staff could lead to salary growth.
- Strategic partnership with Microsoft could set a path to proprietary SW based e-government projects, which could endanger R&D investments in IT sector.
- Growth of demand for outsourcing services could lead to lack of resources dedicated to R&D.

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Thank you for your attention

Milan Zdravković
Innovation Center for Information Technologies
milan.zdravkovic@gmail.com

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