



# Opportunities And Threats Of The ICT Markets In Central Europe

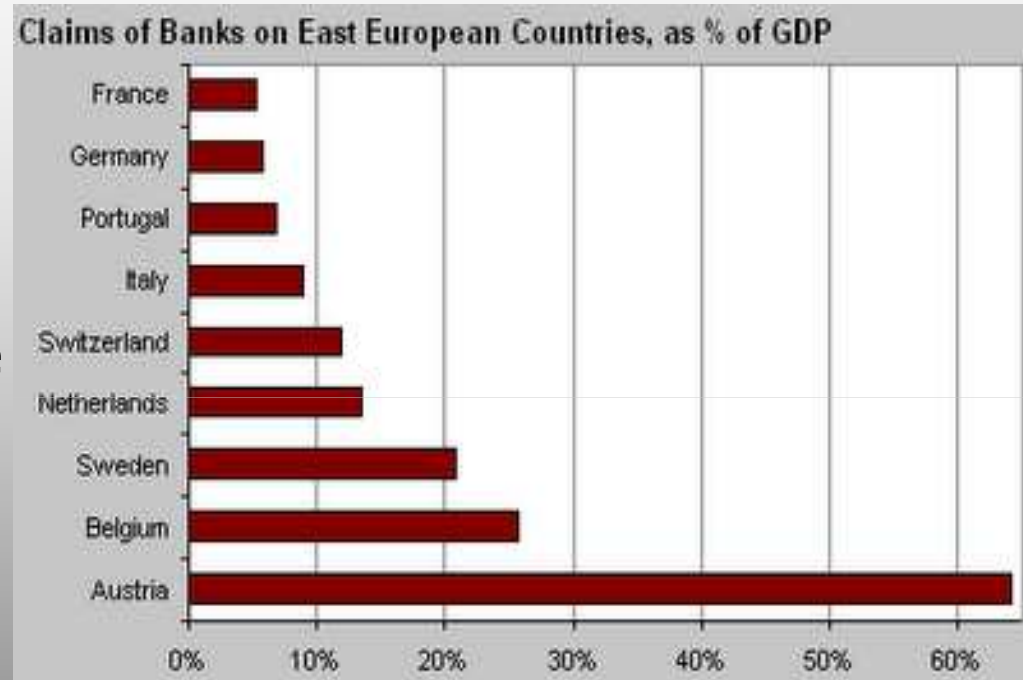
Guenther Krumpak  
CEconsult/ITBeurope  
Brno, April 30, 2009

# Preamble 1: Austria

## Is Austria bankrupt?

Europe's banks granted  
€ 1200 bn. to CEE, of  
which **25% by Austria**

- Austria's foreign exposure  
€ 300 bn., = **131%** of  
Austria's GDP, of which  
€ 120 bn. directly from  
Austria



- Switzerland's foreign exposure, largely also with  
problematic US shares = **447%** of CH's GDP
- Belgium 263%
- Sweden 153%
- Germany 112%

# Preamble II: Europe

**One of the most  
exciting  
experiments of  
the 20th and  
21st centuries**



# Political Map of Europe

YourEuropeMap.com  
is sponsored by  
**pocket-talk.org**  
Your Free Travel Dictionary!



A, CR, H, SK = Centrope

Centrope  
Political  
Map

CZECH  
REPUBLIC

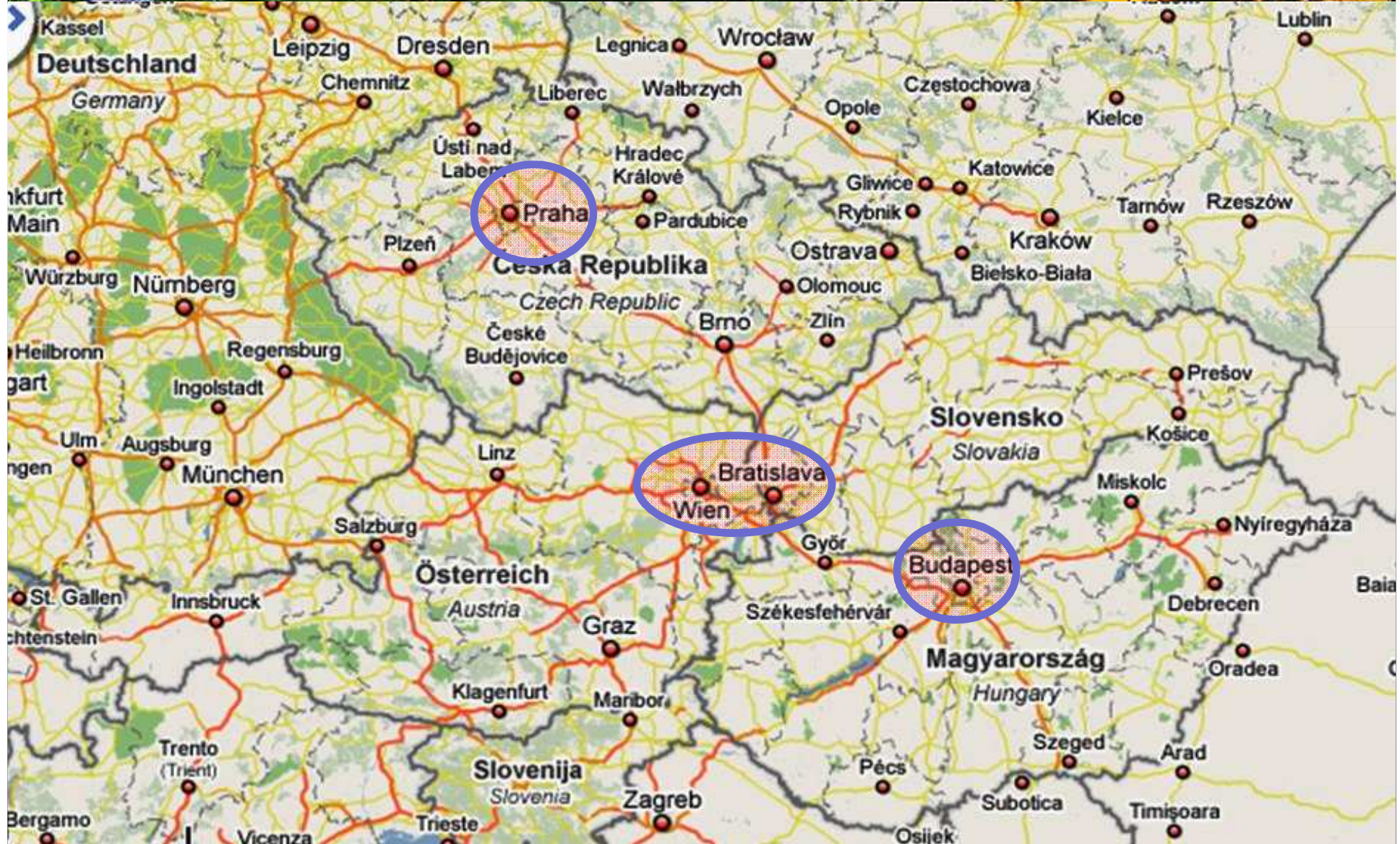
SLOVAKIA

AUSTRIA

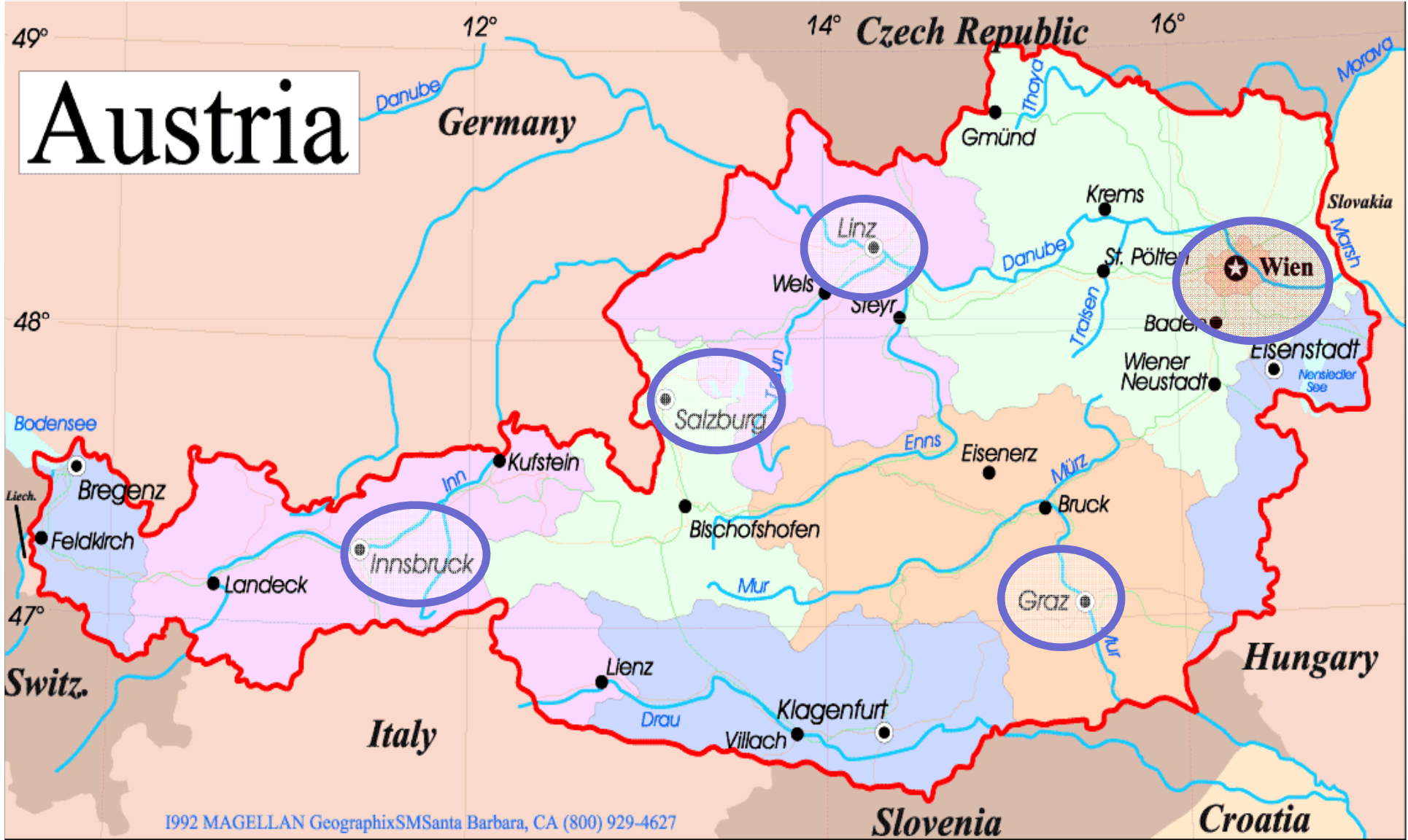
HUNGARY



# Capitals



# Austria



# Czech Republic



# Slovak Republic

## SLOVAKIA

0 — 50 km  
0 — 30 miles



# Hungary



# More precisely, Centrope is



# ICT Markets For Comparison

## ICT revenues (Domestic) 2006, comparison:

- North America 28%
- **Europe 32%** ~ € 620 bn
  - Largest market:
    - Germany 6.9% ~ € 132 bn
- Centrope
  - Austria ~ € 22 bn
  - Slovak Republic ~ € 8.6 bn
  - Czech Republic ~ € 8 bn
  - Hungary ~ € 6.4 bn
  - Total 2.3% ~ € 45 bn

# ICT Expenditure

Annual data on **expenditure for IT hardware**, equipment, software and other services as a percentage of GDP (Eurostat)

Country	2004	2005	2006	Country	2004	2005	2006
EU (27 countries)	2.7	2.7	2.7	<b>Hungary</b>	<b>2.4</b>	<b>2.4</b>	<b>2.5</b>
EU (15 countries)	2.7	2.8	2.7	Netherlands	3.3	3.3	3.3
Belgium	2.8	2.8	2.8	<b>Austria</b>	<b>2.8</b>	<b>2.8</b>	<b>2.8</b>
Bulgaria	1.5	2.0	2.0	Poland	1.9	2.4	2.6
<b>Czech Republic</b>	<b>2.8</b>	<b>3.0</b>	<b>3.2</b>	Portugal	1.8	1.8	1.8
Denmark	3.3	3.3	3.2	Romania	1.6	1.9	2.1
Germany	2.9	2.9	2.9	Slovenia	2.1	2.1	2.2
Estonia	2.7	2.9	2.9	<b>Slovakia</b>	<b>2.1</b>	<b>2.3</b>	<b>2.5</b>
Ireland	1.6	1.6	1.5	Finland	3.2	3.3	3.2
Greece	1.3	1.2	1.2	Sweden	3.8	3.8	3.8
Spain	1.4	1.4	1.4	United Kingdom	3.5	3.6	3.5
France	3.0	3.1	3.1	Norway	2.8	2.5	2.4
Italy	1.8	1.8	1.7	Switzerland	3.7	3.7	3.7
Latvia	2.1	2.3	2.3	United States	3.3	3.3	3.3
Lithuania	1.5	1.7	1.8	Japan	3.4	3.5	3.4

- **Main centers of ICT R&D:**
- Bratislava, Brno, Budapest, Debrecen (MTA ATOMKI!), Graz, Košice, Linz, Miskolc, Ostrava, Prague, Vienna etc.
- 10,000 ICT companies > 1 employee
- 350,000 ICT workforce
- 60 ICT relevant universities and research organisations
- 36,000 ICT scientists/researchers

# Austria and CEE ICT Markets

## Situation until end 2008:

Austria: Market largely saturated on high level: On European indicator scale between no. 1 (e-Gov) and ~ no. 15 (broadband\*)

CR, SR, HU and rest of CEE: main export and internationalisation targets (57% of ICT exports/investments) for

- Austrian companies: € 4,60 bn. (+31%)  
export share 41,5%
- multinational enterprises: € 7,20 Mrd. (+12,5%)  
Export share 75,3%

## Situation until end 2008:

- **CR:** Major European outsourcing location, numerous investments by multinationals, esp. R&D, technology transfer (Brno), high quality of studies (Also valid for SR, H)
- **SR:** Electronics manufacturing, 20% of total exports, highest growth rates, fast growing engineering enrollments automotive industry as target for ICT suppliers
- **H:** Electronics manufacturing, high export rates, growing reputation for Asian ICT multinationals

- “I firmly believe that the economic downturn should be seen as an opportunity for new advances to address today’s global challenges. For the ICT industry, founded on innovation, the current turmoil will create openings.”
- “ICT will play a key role in accelerating the European economic recovery. Direct investment in ICT can maintain jobs and it can also make the European economy more competitive. ICT solutions reduce costs and help companies get quickly out of the crisis.”

**Alexandr Vondra, (Ex-) Deputy Prime Minister for EU Affairs of the Czech Republic, March 5, 2009, Brussels**

**Basically:** ICT industry less affected by global development.  
**BUT:** Any investment needs careful analysis

## Global effects on Central Europe:

Chip, PCB industries negative (Affects Austria, *AT&S* -16% but better than others; 2009 investments in CN, India)

- US: Apple, TI fine, AT&T, IBM better than expected  
MS falls back 1st time in history, Intel sales -30% but planning € 8.8. bn. investments
- VC -30%, techno funds negative but optimistic
- TW: Acer expecting growth
- Europe: SAP, S&T fine, Nokia must cut down  
Germany partly pessimistic, Austria more optimistic

# Influences on CEE

**VDE on Germany:** 63% of VDE members [www.vde.de](http://www.vde.de) say the electronics & IT industries less affected by crisis. But only 31% planning R&D investments equal to 2008.

**Why,** according to survey:

Germany's power of innovation in

- Automation (91%)
- Energy (79%), electro (77%) and medical technologies (70%), leading position until 2020, then China
- Micro- and nano technologies: Race with the US and China

**Major impulses:**

- Energy efficiency (90%)
- E-mobility/electric cars (!) (59%)
- Smart Grids/Intelligent electricity distribution (38%)
- Embedded systems (33%, Germany leading)

- **Ubitexx on DACH: Mobile device management**

Survey by German Software producer ubitexx in January 2009: >75% of all enterprises in DACH planning +100% investments in corporate mobile solutions; Ø investment € 42.578

- **S&T on Austria, CEE: Services**

Austrian S&T AG (3000 staff, 22 countries). Optimistic, as business moves towards services, away from hardware. Existing growth potential, as many clients are also system integrators. Will expand in PL. Major customer base in financial sector: No cuts so far. Expecting rather cuts in industry

## **EITO on Austria**

- 2008: +3.1%
- 2009: 3.0 (down from 4.3% expected)

## **Major demands:**

- Software, services 4.2.% (Down from 5.2% expected)
- Hardware 0.2%
- Growth also in e-health, traffic telematics, IT security
- Telekom: 0,9% (2008: 0.2%), mainly due to internet & mobile data services

## Snapshot on ICT business climate in Austria:

Interview by Austria's IT reseller magazine EHZ with 6 system integrators/resellers in Jan. 2009

[www.bitbybit.at/downloads/ehz01roundtable.pdf](http://www.bitbybit.at/downloads/ehz01roundtable.pdf) :

- 2008 was excellent
- 2009 new priorities with budget allocations
- No cuts in orders so far but some major clients postpone investments
- Crisis does not affect IT sector (as much)
- More demand for cost saving applications (voIP, Green IT etc.)

# Czech Republic

## **BMI on CR:**

IT from € 3.75 bn in 2008 to close to € 6 bn in 2013 = CAGR 10%

One of the most mature IT markets in the region, but growth potential in many segments

## **Drivers:**

- PC penetration at 48% in 2008 < EU average; expected to reach >60% by 2013
- IT in schools (government priority)
- Finance industry
- Transport
- Retail
- Direct investment from multinationals

**IT market growing at a rate well above that of the economy as a whole**

## Siemens Austria on CEE

- Siemens Austria = A + 13 CEE countries
- CEO Brigitte Ederer sees further growth on low level. Bigger problems only with Ukraine.
- Business as usual in Slovak and Czech Republics on low level
- South Eastern Europe also affected by crisis but no disasters

## **IDC CEMA on CEE:**

- Current global downturn accelerates growth in data demand: Cuts in travel and entertainment budgets increase amount of video, VoIP.
- Most service providers will compensate by running networks at higher capacity, leaving less room for peaks in usage. → upturn in network upgrades when recovery begins.
- Downturn provides opportunity to sell new tools, if reducing expenditures:
  - Collaboration tools
  - Telepresence
  - Outsourcing and anything that increases productivity

## IDC on EMEA 2009 :

- +3.0% (Down from +5.4% expected)
- „Western Europe“ +1.2% (Except Austria) (Less investments in hardware, servers, storage)
- **CEE +9.4%; worst case scenario +3-4%**
- Large portfolios better than niche offerings; large diversified customer base better than concentration on few big
- Difficult for SMEs with national customer base

## Survey by GfK Austria for Hochegger-Gruppe, Dec. 2009

- Quorum: 100 Austrian CEE CEOs, managers

### Investment ratings for CEE:

#### Present:

- Romania 17%
- Czech Republic 15%
- Poland 11%

#### Future:

- Romania 22%
- Russia 17%
- Emerging: Bulgaria, Ukraine
- Romania, Bulgaria considerably better than Serbia, Bosnia-Herzegovina, Macedonia and Albania

# Examples

## Who is investing in 2009: Private industry

### Multinational:

- **T-Mobile** ~ € 2.5 bn (globally)
- **Magna** (A, CAN): buying 4 automotive suppliers from US owners in CR, H (Feb. 2009)
- **Volkswagen** in SK: € 300 mill.

### National:

- **Elmarco**, (Liberec), € 7.5 million. Global manufacturer of machines for producing nano fibres: New centre for research, development and production, 3,000 m<sup>2</sup>, the only one of its kind in the world.. Domestic and foreign universities and global companies will participate in Elmarco's activities.

## Who is investing in 2009: The Public Sector:

### CR investing in

- **Health sector:** > € 400 mill. till 2013 in: Radiology, cardiology, surgery, traumatology, oncology: [www.mzcr.cz](http://www.mzcr.cz), tenders on [www.isvzus.cz](http://www.isvzus.cz)
- **ICT:** > € 900 mill. in broadband, IT security, electronic IDs, data services, data transfer, hardware, software: [www.mmr.cz](http://www.mmr.cz)
- Investments and/or support measures for all major industries, e.g. **energy:**  
**CEZ** [www.cez.cz/cs/o-spolecnosti/cez/pro-dodavatele.html](http://www.cez.cz/cs/o-spolecnosti/cez/pro-dodavatele.html)  
**E.ON** Ceska Republika: [www.eon.cz/cs/info/logistics/index.shtml](http://www.eon.cz/cs/info/logistics/index.shtml)  
**RWE** Transgas: [www.rwe.cz](http://www.rwe.cz)
- **Trnava (SK):** €10 mill. for new technology park

# What you must do

- Networking (e.g. VITE (A), Czech ICT Alliance)
- Co-operation
- Internationalisation
- PR and Marketing
- New developments
- Cost saving systems
- Technology transfer
- M&A
- Public administration
- EU projects
- Tenders
- National Support Programmes (Example CR):  
[www.gtai.de/DE/Content/SharedDocs/Anlagen/PDF/chan\\_cen/tschechische-republik,templateId=raw,property=publicationFile.pdf/tschechische-republik?show=true](http://www.gtai.de/DE/Content/SharedDocs/Anlagen/PDF/chan_cen/tschechische-republik,templateId=raw,property=publicationFile.pdf/tschechische-republik?show=true)

# Networking

National/cross border networks, e.g.

VITE (A) [www.vite.at](http://www.vite.at)

Softwarepark Hagenberg (A) [www.softwarepark.at](http://www.softwarepark.at)

Czech ICT Alliance (CR) [www.czechict.cz](http://www.czechict.cz)

First Innovation Park (CR) [www.park.cz](http://www.park.cz)

Košice IT Valley (SK) [www.kosiceitvalley.sk](http://www.kosiceitvalley.sk)

BITERAP (SK) [www.biterap.sk](http://www.biterap.sk)

IVSZ (H) [www.ivsz.hu](http://www.ivsz.hu)

PBN Pannon Business Network [www.pbn.hu](http://www.pbn.hu)

# A bit of promotion for Austria 😊

## ICT research in Austria (engl.)

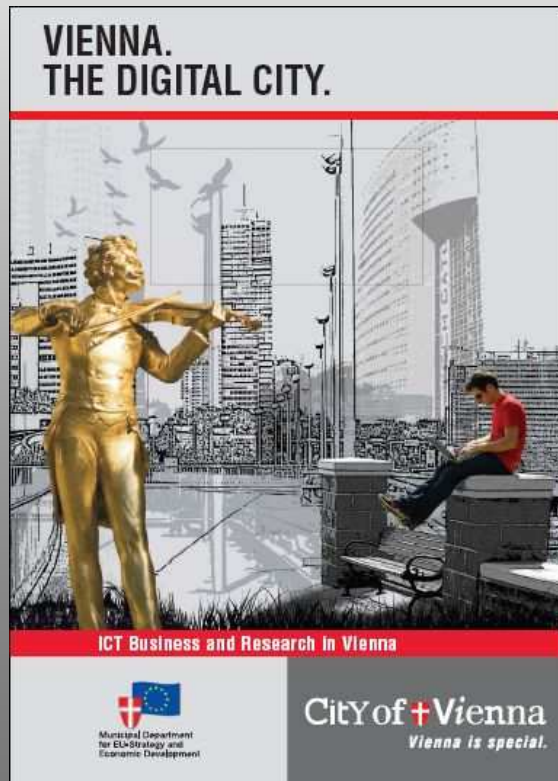


## ICT business in Austria (engl.)



# What we also do...

## ICT business & research in Vienna



## Digitale Wirtschaft Österreichs 2008

Overview on ICT business and research in Austria (Yearbook, German):

Facts&figures

Leading companies & industries

Numerous statistics

Comprehensive information on institutions, businesses, universities and platforms





**Thank you!**

**ITB** europe  
IT Business and Research in Europe

**CEconsult GmbH**  
coaching in emerging markets

**CEconsult GmbH:** ICT consulting and projects with a focus on Central and Eastern Europe:

- Export and Internationalisation
- Partner search and matchmaking
- Networking
- Technology transfer
- EU projects
- Market reports and other publications

**CEconsult is a member of the CITT consortium**  
[www.centrope-itt.eu](http://www.centrope-itt.eu)

Guenther Krumpak  
ITBeurope, a division of CEconsult GmbH  
Floetzersteig 177, A 1140 Wien  
Phone: +43 1 914 26 78, Fax: +43 1 419 34 13

[g.krumpak@ceconsult.at](mailto:g.krumpak@ceconsult.at), [www.itbeurope.org](http://www.itbeurope.org)

# Appendix: R&D

**R&D Expenditure in Austria 2007** ~ €6.83 bn. (Statistics Austria)

**R&D-Share** ~ 2,54% GNP > EU-Ø (2,25%) = no. 10 (OECD)

- ~ 37% Public
- ~ 47% Private
- ~ 16% Foreign

## **Changes since 2000:**

- Public + 67% (7.6 % p.a.)
- Private + 89%
- R&D expenditure total + 70% (7.84% p.a.)

## **R&D expenditure for digital technologies**

- **2004** ~ € **1.07** bn.
- **2007** ~ € **1.4** bn.

# Appendix: R&D

**R&D expenditure CR 2006:** R&D (GERD) 1.54% GDP (2006) < OECD  $\bar{\varnothing}$  (2.26%), 1996: 0.97%.

- 40% Public
- 57% Private
- 3% Foreign
  
- ~30% of R&D by SMEs
  
- Ratio of R&D personnel to total employment more than doubled from 1996 to 2006 and is now close to EU27 average.
  
- HR for science and technology (HRST) 33% of total employment
  
- Venture capital financing is extremely low and has fallen as a share of GDP in recent years.

# Appendix: R&D

**R&D expenditure H 2006:** (GERD) 1% GDP < OECD Ø (2.26%).

- 43% Private (OECD Ø 64%)
- Target for GERD of 1.4% of GDP in 2010
- target for business 45%
- EU provides significant funding for R&D.
- R&D personnel per 1,000 total employment just over half EU27 average in 2006, recent increases

# Appendix: R&D

**R&D expenditure SK 2006:** 0.49% GDP < OECD  $\emptyset$  (2.26%).

(=Result of restructuring and closure of government and industrial R&D institutes during the transition to a market economy)

- 56% Public
- 35% Private
- Rapid rise in university enrolments (+100% 1995 - 2003)
- Recent reforms to improve research quality and relevance: Government shifting public support towards programme-based funding → Goal: 60% public R&D by 2015.
- Share of science & engineering graduates in total graduates > OECD  $\emptyset$  (Tradition of mathematics and science education)
- Most research oriented towards basic research in areas such as physical sciences. Little applied research or engineering

# Further Information

<http://centrope.info/baernew/stories/1252/> Research institutes of the Central European Region

A:

[www.researchinaustria.info](http://www.researchinaustria.info) Research info

[www.itprofiles.at](http://www.itprofiles.at) ICT companies & research organisations

[www.innovationszentren-austria.at](http://www.innovationszentren-austria.at) Innovation centres

[www.portal.ac.at/index-en.html](http://www.portal.ac.at/index-en.html) Universities

CR:

[www.vyzkum.cz](http://www.vyzkum.cz) Research&Development Council *and* R&D Information System

[www.tc.cz](http://www.tc.cz) Technology Centre of the Academy of Sciences

H:

[www.nkth.gov.hu](http://www.nkth.gov.hu) National Office for Research and Technology (NKTH)

[www.otka.hu](http://www.otka.hu) Hungarian Scientific Research Fund (OTKA)

[www.ftt.hu](http://www.ftt.hu) Higher Education and Research Council (HERC) (H only)

SK:

[www.cvtisr.sk](http://www.cvtisr.sk) Slovak Centre of Scientific and Technical Information (SCSTI)

[www.apvv.sk](http://www.apvv.sk) Slovak Research and Development Agency

[www.saia.sk](http://www.saia.sk) Slovak Academic Information Agency

# High Tech from Centrope

- **The heart of the BlackBerry for example.**

Blackberrys work with printed circuit boards by Austria's AT&S [www.ats.net](http://www.ats.net), the European market leader



# High Tech from Centrope

**Amanita Design**, the Czech Republic's most awarded game developers

[www.amanitadesign.com](http://www.amanitadesign.com)

**17 awards, among them**

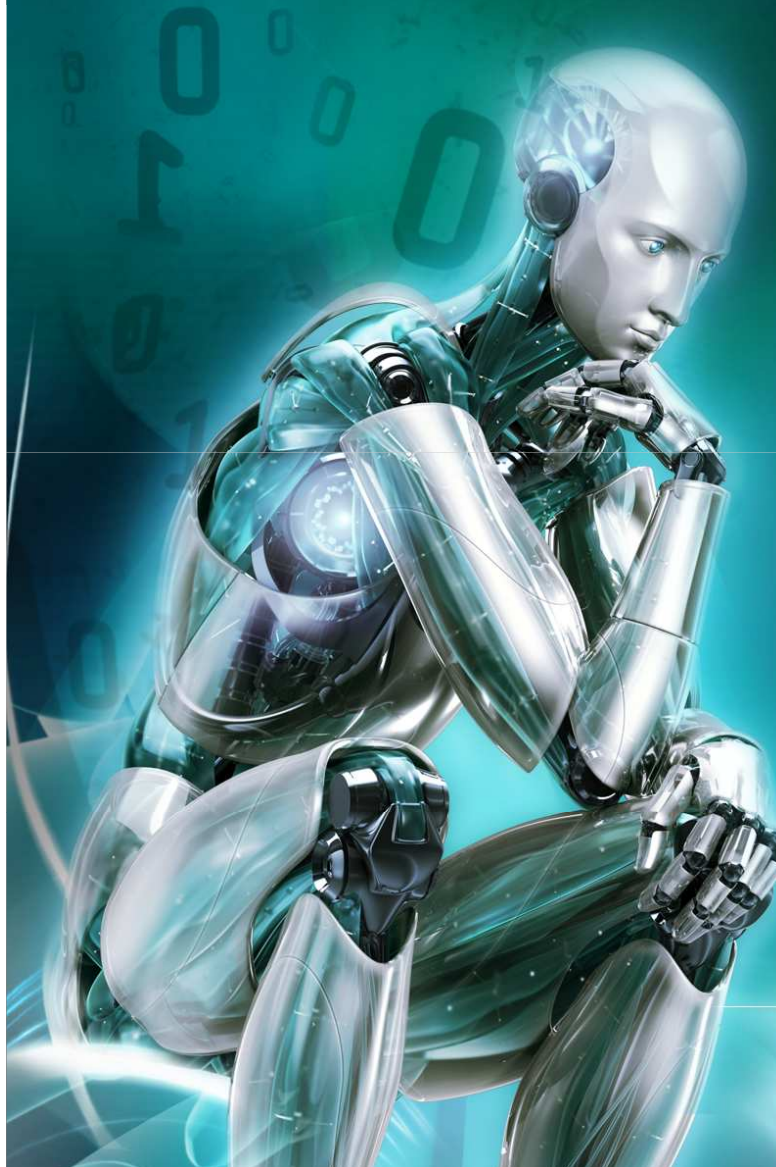
- **Webby Award 2007 winner** (Games category)
- **Best Web-Work Award** at SEOUL NET FFESTIVAL 2006 for "**Samorost 2**" (**Online game**)

# High Tech from Centrope

## ESET, Slovakia

According to the independent testing organization AV-Comparatives, ESET NOD32 Antivirus was the best antivirus product worldwide for the years 2006 and 2007.

[www.eset.eu](http://www.eset.eu)



ESET S

# High Tech from Centrope

## HoloVizio

is a patented next generation 3D displaying system from Hungary.

**"Best Exhibit"  
Award at ICT  
Lyon 2008**

[www.holografika.com](http://www.holografika.com)

