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UNIDO Project US/RER/02/164 – Training Course on Technology Foresight for Practitioners, 6 -10 October 2003, Prague

<u>FINAL REPORT</u> - covering the work performed under the contract - to be submitted by 30 October 2003 - as stipulated by the Terms of Reference

Compiled by: Technology Centre AS CR, Rozvojova 135, Prague 6, Czech Republic

Background:

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The main objective of the training course: to create the critical mass of expertise in countries of the region of CEE/NIS in order to enable them to launch national and regional foresight activities.

Organizers and Programme of the Course: attached

Information leaflet:

The Technology Centre outlined the contents (incl. preliminary programme) of an information leaflet in February 2003 (the final version was approved by the Ministry of Foreign Affairs of the CR). The leaflet was finalized and published by UNIDO and then distributed to potential course participants in coordination with UNIDO promotion activities.

Course promotion:

Information on the course was published at the TC's websites <u>www.tc.cz</u> and <u>www.foresight.cz</u>, both in their Czech and English versions.

<u>Human resources:</u> A project team was established at the TC to complete the contract tasks: Kristina Kadlecikova – Course Manager Eva Svobodova – Course Secretary Jana Antosova – Assistant Tomas Kanak – IT specialist

<u>Co-ordination:</u> All activities were continuously consulted with the main stakeholders of the project: UNIDO (project organiser), Ministry of Foreign Affairs CR (project sponsor), Ministry of Education, Youth and Sports (project guarantor)

### Experts / lecturers:

TC communicated with experts to deliver their contributions to the course <u>textbook</u> by 20 June and subsequently to deliver their presentations, abstracts of their textbook contributions and short CVs for the course <u>workbook</u> by 10 September 2003. The textbook was published by UNIDO, the workbook by TC. TC prepared also and on-line prioritization tool to be used by the course participants.

TC instructed all lecturers to combine their theoretical presentations with practical handson exercises – which they did and it proved to add value to the lectures. The following <u>experts</u> have agreed to deliver lectures in the course (all of them recognized in their area of expertise): also see the attached Programme of the Course

Prof. Martin Potucek, CESES, Charles University, Czech Republic

Ing. Halka Balackova, Masaryk Institute of Advanced Studies, Czech Technical University, Czech Republic

Dr. Michael Keenan, PREST, University of Manchester, United Kingdom

Prof. Ian Miles, PREST, University of Manchester, United Kingdom

Prof.Hans Georg Graf, Centre for Futures Research, University of St.Gallen, Switzerland Dr. Kerstin Cuhls, Fraunhofer Institute for Systems and Innovation Research (ISI), Karlsruhe, Germany

Dr. Robert Phaal, Centre for Technology Management IFM, University of Cambridge, United Kingdom

Dr. Karel Klusacek, Technology Centre AS CR, Czech Republic

## Hotel and transport facilities, boarding arrangements:

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TC booked hotel rooms for 35 participants in the Parkhotel Hotel in Prague and arranged for the shuttle-bus service between the hotel and the course venue in the mornings and evenings. Additionally, 5 rooms were booked for the lecturers and UNIDO staff in another hotel - close to the course venue.

It was agreed that participants would confirm the booked accommodation directly – this information was stated in the Application Form.

Participants had breakfasts and dinners in the Parkhotel Hotel (except for one evening for which a social event – a dinner – was planned). Lunches were offered in a self-service dining room close to the course venue.

## Provision of basic facilities for the course:

The following facilities were defined as needed and TC provided them: a conference room (up to 50 participants, complete audio equipment, beamer with connected notebook, video conference equipment, recording equipment and services, internet connection, overhead projector, video projection, flipchart, internal TV circuit, telephone, copy machine and fax)

<u>The application process</u>: Technology centre prepared an on-line application form and provided computer support for handling the application process. The on-line application form was prepared on the basis of an application form for a training programme provided by UNIDO, containing all data to be requested from applicants for participation in the course. A database of applicants was generated upon their filling-in and submitting the electronic application form. The on-line application form and process were worked on in May 2003 and finalized at the beginning of June 2003. Then it was made accessible from both the Technology Centre (TC) and the UNIDO web site.

TC was continuously monitoring the application process and reviewing the filled-in forms for their completeness. The applicants had to be approached to add data they had not provided (since not deemed mandatory) and which were necessary for the evaluation / selection process.

TC sent the first batch of applicants to the Ministry of Foreign Affairs of the CR for comments on 10 July. Remarks by TC were included for consideration. Another batch followed. Based on UNIDO request TC forwarded the evaluation of applicants by both the Technology Centre and the Ministry of Foreign Affairs of the CR to UNIDO by 15 August 2003 so that UNIDO might inform participants in due time (by 29 August) on their

acceptance. Altogether <u>59 applicants from 26 countries</u> expressed their interest in participating in the course as of the end of September.

Representatives of the following <u>countries expressed their interest</u>: Albania, Azerbaijan, Belarus, Brazil, Bulgaria, Croatia, Cyprus, Czech Republic, Estonia, Georgia, Greece, Hungary, Iran, Kazakhstan, Lithuania, Malta, Poland, Romania, Russia, Serbia and Montenegro, Slovakia, Slovenia, Turkey, Ukraine, Uzbekistan, Venezuela. Finally, 31 participants from 15 countries attended the course.

(see the attached List of Participants with name, institution and country stated for each participant)

Additionally, two representatives of UNIDO participated in the course: Ms. Pilar Rodriguez-Ruiz and Mr.Toshiyuki Miyake.

Representatives of the following <u>countries participated in the course</u>: Albania, Belarus, Bulgaria, Croatia, Cyprus, Czech Republic, Hungary, Iran, Lithuania, Poland, Russia, Serbia and Montenegro, Slovakia, Slovenia, Ukraine.

<u>Evaluation of the Course by Participants</u>: A standard Training Course Appraisal Form was provided by UNIDO. On the last day of the course the Form was distributed among the participants who were asked to kindly provide their opinion and comments. Generally, the course was assessed positively in all aspects, i.e. pre-course administration, achievement of course objectives, course content, training methods, documentation and hand-outs, trainers' knowledge of the subject, rapport with trainers, overall usefulness of the training. A discussion was opened at the very end of the course – in addition to positive assessments suggestions were raised regarding providing more background information on foresight prior to the course and defining the context of foresight in one of the initial lectures.

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Kristina Kadlečíková Technology Centre AS CR

<u>Attached</u>: Technology Foresight for Practitioners - Programme List of Participants

# **Technology Foresight for Practitioners**

Training course 6-10 October 2003, Prague, Czech Republic

Regional Initiative on Technology Foresight for Central and Eastern Europe and the Newly Independent States

<u>Organizers</u>: United Nations Industrial Development Organization, in cooperation with the Technology Centre of the Academy of Sciences of the Czech Republic

<u>Sponsor</u>: The Government of the Czech Republic, the Ministry of Foreign Affairs of the Czech Republic

<u>Guarantor</u>: The Ministry of Education, Youth and Sports of the Czech Republic

#### Programme:

Five-day training workshop on foresight for experts from Central and Eastern European Countries and the Newly Independent States involved in designing and conducting national and regional foresight exercises.

#### **Objectives**:

Provide participants with the knowledge of foresight tools as well as hands-on experience in applying such tools and methodologies to address strategic questions and decisions such as:

- What technologies are likely and desirable to be dominant in national or regional economy?
- What priorities should national research and development programmes feature?
- Where should the budget for publicly funded research and development be allocated?
- What skills and competencies should be developed for the future?
- What will be the demand of the society for industrial products, services, food, shelter, health, education, life style and welfare over the next 10 years?

#### Knowledge to be acquired in the course:

- Principal foresight methods and possibilities of their applications;
- Case studies as a reference and inspiration for solving problems;
- Guided hands-on exercises in the application of selected foresight methods;
- Networking establishing contacts with workshop participants and lecturers.

# Programme

# Day 1 - Monday 6 October 2003

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| 09:00-09:30 | Welcoming addresses<br>Speakers:  |
|-------------|---|
|             | Jaromír Přívratský, Ministry of Foreign Affairs of the Czech  |
|             | Dan Liang, United Nations Industrial Development Organisation<br>Miroslav Marek, Ministry of Education, Youth and Sports of the<br>Czech Republic   |
| 09:30-10:30 | <b>Introductory session</b><br>Karel Klusacek, Technology Centre AS CR, Czech Republic<br>Ricardo Seidl da Fonseca, United Nations Industrial Development<br>Organisation<br><i>Objectives of the course, introduction of participants, what</i><br><i>foresight is and is not, foresight levels – corporate, regional,</i><br><i>national, multinational, illustrative examples of foresight</i><br><i>applications, major foresight methods</i> |
| 10:30-11:00 | Coffee  |
| 11:00-13:00 | <b>Socio-economic aspects of foresight</b><br>Martin Potucek, CESES, Charles University, Czech Republic<br><i>Main challenges of the future, how the future can be shaped using</i><br><i>foresight, practical exercise - participants will identify the main</i><br><i>issues and challenges in their countries to which foresight can be</i><br><i>applied</i>  |
| 13:00-14:00 | Lunch   |
| 14:00-15:30 | <b>Background analysis</b><br>Hans Georg Graf, The Centre for Futures Research, University of<br>St.Gallen, Switzerland<br>Environmental scanning, megatrend analysis, trend evaluation   |
| 15:30-16:00 | Coffee  |
| 16:00-18:00 | Ideas generation<br>Halka Balackova, Masaryk Institute of Advanced Studies, Czech   |

Halka Balackova, Masaryk Institute of Advanced Studies, Czech Technical University, Czech Republic Brainstorming – principles, practical hints, practical exercise

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# Day 2 - Tuesday 7 October

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| 09:00-10:30 | Foresight tools - expert panels<br>Michael Keenan, PREST, University of Manchester, United Kingdom<br>Principles, practical hints                                       |
|-------------|---|
| 10:30-11:00 | Coffee  |
| 11:00-13:00 | Foresight tools –Scenario planning<br>Ian Miles, PREST, University of Manchester, United Kingdom<br>Principles and process, practical hints                             |
| 13:00-14:00 | Lunch   |
| 14:00-15:30 | Foresight tools –Scenario planning<br>Ian Miles, PREST, University of Manchester, United Kingdom<br>Organisation of a scenario workshop, practical exercise             |
| 15:30-16:00 | Coffee  |
| 16:00-18:00 | Foresight tools –Scenario planning (continues)<br>Ian Miles, PREST, University of Manchester, United Kingdom<br>Organisation of a scenario workshop, practical exercise |

# Day 3 - Wednesday 8 October

| 09:00-10:30 | <b>Foresight tools – Delphi surveys</b><br>Kerstin Cuhls, Fraunhofer Institute for Systems and Innovation<br>Research (ISI), Karlsruhe, Germany<br><i>Principles, process, examples, case studies</i>             |
|-------------|---|
| 10:30-11:00 | Coffee  |
| 11:00-13:00 | <b>Foresight tools – Delphi surveys (continues)</b><br>Kerstin Cuhls, Fraunhofer Institute for Systems and Innovation<br>Research (ISI), Karlsruhe, Germany<br><i>Principles, process, examples, case studies</i> |
| 13:00-14:00 | Lunch   |
| 14:00-15:30 | Foresight tools – Critical technologies<br>Karel Klusacek, Technology Centre AS CR, Czech Republic<br>Principles, process, examples, practical exercise   |
| 15:30-16:00 | Coffee  |
| 16:00-18:00 | Foresight tools – Critical technologies (continues)<br>Karel Klusacek, Technology Centre AS CR, Czech Republic<br>Principles, process, examples, practical exercise   |
| 18:30       | Dinner in the restaurant JAS  |

# <u>Day 4</u> – Thursday 9 October

| 09:00-10:30 | Foresight tools – Technology roadmaps<br>Robert Phaal, University of Cambridge, United Kingdom<br>Principles, process, examples, practical exercise  |
|-------------|--|
| 10:30-11:00 | Coffee   |
| 11:00-13:00 | Foresight tools –Technology roadmaps (continues)<br>Robert Phaal, University of Cambridge, United Kingdom<br>Principles, process, examples, practical exercise   |
| 13:00-14:00 | Lunch  |
| 14:00-15:30 | <b>Organising and managing a foresight exercise</b><br>Michael Keenan, PREST, University of Manchester, United Kingdom<br><i>General guidelines, case examples</i>   |
| 15:30-16:00 | Coffee   |
| 16:00-18:00 | <b>Design of a foresight exercise I</b><br>Course lecturers available for consulting<br><i>Course participants will be provided by concrete tasks, which could</i><br><i>be solved using the foresight, selection of topics, discussion with</i><br><i>course lecturers, preparation of work in small groups</i> |
|             |  |

# Day 5 – Friday 10 October

| 09:00-13:00 | <b>Design of a foresight exercise II</b><br>Course lecturers available for consulting<br><i>Course participants will design their own foresight exercise,</i><br><i>practical work in small groups</i> |
|-------------|--|
| 13:00-14:00 | Lunch  |
| 14:00-16:00 | <b>Presentation of group's outputs</b><br>Group rapporteurs present their exercise to course participants<br>and lecturers, discussion   |
| 16.00-17.00 | Top and coffee - final discussion  |

16:00-17:00 **Tea and coffee - final discussion** A brief course evaluation by participants, discussion with lecturers

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Closing

UNIDO Project US/RER/02/164 – Training Course on Technology Foresight for Practitioners, 6 -10 October 2003, Prague: PARTICIPANTS

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| First         | Surname                 | Institution   | Country                  |
|---------------|-------------------------|---|--------------------------|
| Name          |                         |   |                          |
| Miha          | Baebler                 | Chamber of Commerce and<br>Industry of Slovenia                                 | Slovenia                 |
| Fatos         | Dega                    | Center for Science, Technology<br>and Innovation Policy                         | Albania                  |
| Pantelis      | Dimitriou               | First Elements Ventures Ltd.  | Cyprus                   |
| Milena        | Glavcheva               | Ministry of Education and Science   | Bulgaria                 |
| Sandor        | Gobolos                 | Hungarian Academy of Sciences -<br>Chemical Research Center                     | Hungary                  |
| Jan           | Grega                   | INNOVA, n.o.  | Slovakia                 |
| Moham<br>mad  | Halimi                  | Ministry of Industries and Mines,<br>Department of Technology Studies<br>group  | Iran                     |
| Katerina      | Hoskova                 | Ministry of Education, Youth and Sports Czech Republic                          | Czech<br>Republic        |
| Anatoli       | Hryshano<br>vich        | National Academy of Science,<br>Belarusian Innovative Foundation                | Belarus                  |
| Tomas         | Kubala                  | Regional Development Agency of South Moravia                                    | Czech<br>Republic        |
| Petr          | Kukla                   | Southbohemian Chamber of<br>Commerce (JHK)                                      | Czech<br>Republic        |
| Arkadius<br>z | Machula                 | Ministry of Science, Technology<br>and Information Technology                   | Poland                   |
| Jan           | Naxera                  | BIC Plzen   | Czech<br>Republic        |
| Tomas         | Novak                   | Svaz prumyslu a dopravy CR  | Czech<br>Republic        |
| Iwona         | Nowicka                 | Ministry of Science, Research and<br>Informatin Technology                      | Poland                   |
| Ewa           | Okon-<br>Horodyns<br>ka | Ministry of Scientific Research and<br>Information Technology                   | Poland                   |
| Snezana       | Omic                    | Ministry of Science, Technology<br>and Development of the Republic<br>of Serbia | Serbia and<br>Montenegro |
| Nataliya      | Pankratov<br>a          | Deputy Director   | Ukraine                  |
| Hana          | Posavec                 | Strategic Planning Office,<br>Government of Republic of Croatia                 | Croatia                  |

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|----------------|-----------|---|--------------------|
| Viera          | Rosova    | Academy of Sciences of Slovak<br>Republic   | Slovak<br>Republic |
| Alexand<br>er  | Skurla    | Slovak Investment and Trade<br>Development Agency   | Slovak<br>Republic |
| Valentin<br>as | Snitka    | Vilnius University, International<br>Centre for Knowledge Economy<br>and Knowledge Management | Lithuania          |
| Alexand<br>er  | Sokolov   | State University - Higher School of<br>Economics  | Russia             |
| Ruzena         | Spacilova | Institute for Forecasting, Slovak<br>Academy of Sciences                                      | Slovakia           |
| Peter          | Stanovnik | Institute for Economic Research   | Slovenia           |
| Jan            | Strelecky | BIC Group, s.r.o.   | Slovakia           |
| Alexand<br>er  | Uspenskiy | Republican Centre for Technology<br>Transfer  | Belarus            |
| Jiri           | Vacek     | University of West Bohemia,<br>Department of Management,<br>Innovations and Projects          | Czech<br>Republic  |
| Ana            | Vojnic    | Strategic Planning Office,<br>Government of the Republic of<br>Croatia                        | Croatia            |
| Radoslav       | Yoshinov  | Director of Laboratory of<br>Telematics   | Bulgaria           |
| Stefan         | Zajac     | Institute for Forecasting, Slovak<br>Academy of Sciences                                      | Slovakia           |