3. RECAPITULATION OF MAIN TENDENCIES IN DEVELOPEMENT

Monitoring of human resources in science and technology is a key element because highly qualified human resources are the basic factor of development and are connected to technological and economical growth and societal development. Adequately educated and trained human resources are also the crucial factor for future innovations.

In the frame of this publication we focused on the determinating of stocks of human resources in science and technology and flows into the system from education. Stocks data was obtained from the Community Labour Force Survey (CZSO) and flows data was obtained from the Institute of Information on Education.

Stocks of human resources in science and technology

In years 2001 and 2002, the number of persons increased who belong to the stock of human resources in science and technology i.e. they fulfilled at least one of the following conditions:

- successfully completed tertiary education in science and technology field of study;
- didn´t complete required education but are employed in science and technology occupation which formally requires this type of education.

In year 2001 these persons represented 19,9% of total population aged 15+ and the percentage increased to 20,2% in the year 2002.
From the population aged 25-64 point of view, these persons represented 26,1% in year 2001 and 26,3% in year 2002. Ratio of men and women was balanced.

The biggest stock of HRST was recorded in Prague and in the Southeast and Northeast. On the other hand, the lowest stock of HRST was recorded in the Northwest.

Special attention was paid to people who successfully completed tertiary education in the science and technology fields of study (*HRSTE*) and to people who were at least employed in a science and technology occupation which required tertiary education (*HRSTO*). All people belonging to HRSTE or HRSTO create the so-called stock of *HRST*.

To determine strategic stocks of HRST, core or *HRSTC* are monitored. This category covers those people who fulfil both conditions for inclusion into HRST. HRSTC are human resources which are specialists and are active in a science and technology field.

In the monitored years, a 10,3% increase was recorded within the people who fulfil the education condition and a decrease of 4% within people who are employed in science and technology occupations. This difference in movement caused a final increase of the human resources core of about 7,3%.

From the particular science and technology fields of study point of view, the biggest interest was recorded in technical fields and their popularity should tend to rise even more. Other fields with a big interest were the social and medical sciences.

In the range of age groups, the biggest group is made out of people aged 45-64, which was 39,5% of all HRSTC in year 2002. The reason is the high cost of training and the length of the training and getting experience. That is why the biggest group is made out of people in this productive age group. On the other hand in years 2001 and 2002, people in age 65 or more were only 2,6% out of all HRSTC.

The busiest sectors of activity were the education, financial intermediation and high tech services sectors (i.e. telecommunications, computers and research and development).

The next important HRST indicator is the unemployment rate of persons with completed tertiary education (*HRSTU*), and also the unemployment rate of persons without tertiary education (*Non-HRST*). The second category also includes people without required education who are considered as a potential resource in case they would get employed in one of the science and technology occupations.

Unemployment rate of persons with tertiary education is much lower than unemployment rate of persons without the required education. Still, in years 2001 and 2002, a decrease in unemployment rates was noticed because of the rising demand for specialists in the science and technology fields.

Flows of human resources in science and technology from education
Main monitored categories were participants (potential HRST in future) and graduates (existing flow of HRST in given year) from tertiary education.

As with stocks, inflow of participants and graduates tended to increase in years 2001 and 2002.

The increasing number of participants during years 2001 and 2002, especially in the engineering, architecture and computing fields, is a promising fact for the future, where the demand for science and technology specialists will continue to grow. Young peoples´ interest in these fields of study will help to avoid the so-called brain aging of the scientific-technological workforce.

In 2001 and 2002 also, the number of graduates tended to rise, especially in the science and engineering fields of study. On average, 42 out of 1 000 people in age 25-29 graduate from tertiary education per year and 1,5 graduate out of 1 000 young people in this age group successfully obtain a PhD degree.

In general, it is possible to say, that the base of human resources in science and technology in the Czech Republic is tending to increase not decrease. The possible problem of the brain aging of the scientific-technological workforce is rectifiable by increasing the inflow of young people into the HRST system. Also, an increase in the potential inflow was recorded, which gives continued hope for the future. The Czech Republic is following the trend of growth in the science and technology fields which is noticeable in the European Union countries.