2. FLOWS OF HUMAN RESOURCES IN SCIENCE AND TECHNOLOGY

Monitoring flows is the key element in recording stocks of human resources in science and technology. Within the frame work of flows, we monitor inflows of human resources from the educational system and inflows from the migration or mobility of human resources. While the first inflow is easy to measure thanks to full-range statistics on education, the data on mobility inflow is much less clearly definable. For this reason, in this publication, we focus only on inflows from education.

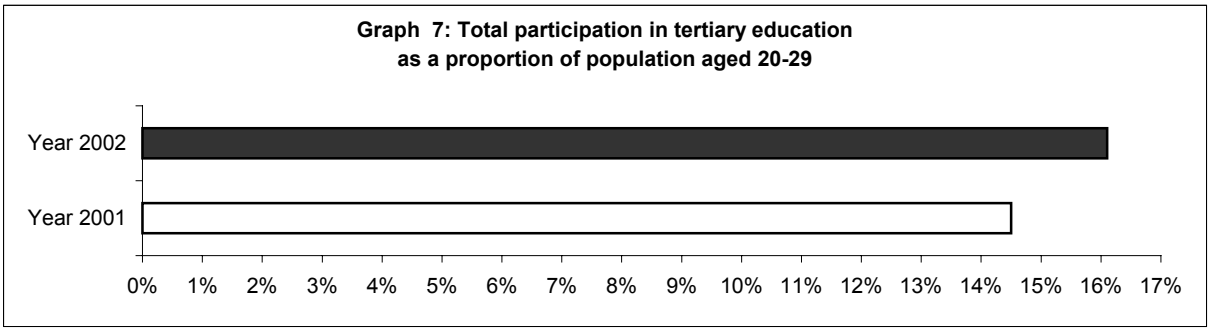
Table 4: Participation in tertiary education by gender and in comparison with population aged 20-29

	Population aged 20-29		Participation in tertiary education					
			Total participation			In science and engineering (S&E) fields of study		
	Total	Women in total (%)	Total	% population 20-29	Women in total (%)	Total	% of total participation	Women in total (%)
Year 2001	1 716 550	49,0%	249 693	14,5%	50,3%	80 193	32,2%	25,5%
Year 2002	1 680 251	49,0%	271 349	16,1%	50,7%	85 463	31,5%	25,4%

From Table 4 and Graph 7, it is apparent that the number of people participating in tertiary education increased. In year 2001, there were 145 out of 1 000 young people in age 20-29 participating in tertiary education. In year 2002, this increased to 161young people per 1 000.

Participation in the science and engineering fields of study accounted for an average of 32% of all students in tertiary education. In both years, the highest number of students registered at universities which offered Masters degrees. The highest interest was recorded in engineering, architecture and computing. If we focus on PhD studies, than the highest interest was recorded in engineering and physical sciences. In terms of total participation, the interest in studies between men and women was equal. On the other hand, if we focus specifically on the science and engineering fields of study, then interest of men in these fields dominates. Women represented only a quarter of these students.

Graph 7: Total participation in tertiary education as a proportion of population aged 20-29



Source: ÚIV

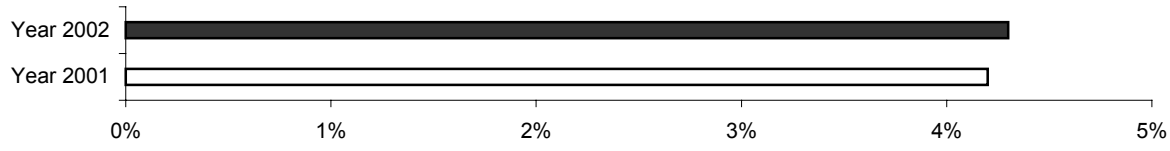
Number of participants doesn´t give us a full picture of the human resource flows from education. It is only a potentional flow which informs us about a future trend in a given year. For this reason, special attention to graduates must be paid because they are the real, existing flow into the system of human resources.

Table 5: Graduates from tertiary education, by gender and in comparison with population aged 25-29

	Population aged 25-29		Total graduation from tertiary education					
			Total graduation			In science and engineering (S&E) fields of study		
	Total	Women in total (%)	Total	Per 1000 population 25-29	Women in total (%)	Total	% of total graduation	Women in total (%)
Year 2001	897 867	49,0%	37 844	42,1	56,0%	9 351	24,7%	27,3%
Year 2002	906 497	49,1%	38 542	42,5	56,5%	9 850	25,5%	28,6%

The number of graduates from tertiary education during years 2001 and 2002 is noticeable. Especially in the science and engineering fields of study. On average, the total graduation rate from tertiary education is 42 out of 1 000 young people in the age group 25-29. This fact gives us evidence of the positive development of human resources in science and technology in the Czech Republic and also corresponds with trends within the European Union.

Graph 8: Total graduation from tertiary education as a proportion of population 25-29



Source: ÚIV

Especially important is the data on graduates from PhD studies (ISCED 6). They are considered the most important part or so-called core, of the system of human resources in science and technology. Primarily, they end up in occupations in ISCO major group 2 – professionals. These graduates have the strongest effect on the technological and economic development of the country.

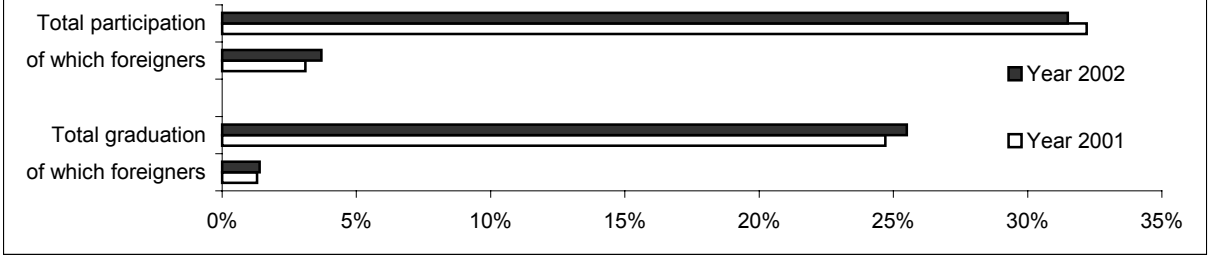
Table 6: PhDs graduates by gender and in comparison with population aged 25-29 let

	Population aged 25-29		New PhD – graduates from tertiary education (ISCED 6)					
			Total of new PhDs (ISCED 6)			In science and engineering (S&E) fields of study		
	Total	Women in total (%)	Total	Per 1000 population 25-29	Women in total (%)	Total	% of total of new PhDs	Women in total (%)
Year 2001	897 867	49,0%	1 062	1,2	34,8%	544	51,2%	25,4%
Year 2002	906 497	49,1%	1 312	1,4	34,5%	641	48,9%	25,0%

From Table 6 it emerges that the number of PhDs is increasing, even if it is only slight increase. In years 2001 and 2002, many PhDs´ were recorded in the fields of life and physical science, but traditionally the engineering and engineering trades have had the most graduates and men tend to dominate in both of them.

A very important part of monitoring human resources is capturing the number of foreigners participating and graduating from tertiary education in the Czech Republic (see Graph 9). It is necessary to pay attention to the fact that most of these graduating foreigners will return to their original country and only a small percentage will stay and work in the Czech Republic. That is why they represent only potential flow into the Czech system of human resources in science and technology.

Graph 9: Foreigners as a proportion of total participation and graduation from tertiary education in science and engineering fields of study



Source: ÚIV