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GOVERNMENTAL SUPPORTED SPACE INTERNSHIP PROGRAMMES IN NEW ESA MEMBER STATES - POLISH PERSPECTIVE

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Abstract

Over last 10 years five new countries - Czech Republic, Romania, Poland, Hungary and Estonia - have joined the European Space Agency. Those countries are currently experiencing a considerable increase of space activities aiming to take part in the European and Global space market. New companies, start-ups and consortiums have been created alongside offices of foreign entities have opened their premises in these countries. All of them are searching for a new workforce, including graduates and young professionals. However, there is a gap between expectations set by space sector companies and presumed capabilities of fresh MSc/PhD graduates.
One way to overcome this gap is to create a government-supported internship programmes. The example presented in this paper is the "Rozwój Kadr Sektora Kosmicznego - Space Industry Human Resources Development". This program is financed by the Industrial Development Agency of Poland (ARP). It allows fresh MSc/PhD graduates to gain their first work experiences in the space sector. In 2016 and 2017 the program had 20 recipients starting their work at several local space entities, where they usually continue their employments following the internship. This paved the way for many talented graduates to join the space sector gaining lots of experience and adding value to the workforce based in the new countries and strengthen their presence in the space market.
At the moment this proposal was written the program is finishing its second round, with the third already announced for 2018. The goal of this work is to present first results from two rounds of the internship programme organised by ARP. This will highlight the experiences gained and projects in which such a program contributed in developing connecting directly this kind of program's importance to the development of the space sector.
Keywords: New ESA member states, Poland, education, internship programmes

Acronyms/Abbreviations

ARP	pol. Agencja Rozwoju Przemysłu, Industrial Development Agency
ZPSK	pol. Związek Pracodawców Sektora Kosmicznego, Polish Space Industry Association

1. Introduction

Over the last 10 years the European Space Agency has been joined by five countries: Czech Republic (2008), Romania (2011), Poland (2012), Hungary and Estonia (both 2015). Those countries are currently experiencing a considerable increase of space activities aiming to take part in the European and Global space market. New companies, start-ups and consortiums have been created alongside offices of foreign entities have opened their premises in these countries. For example, recent statements from ARP in Poland claimed that close to 3000 individuals work in the local space industry. Other statements mention a number of about 1500 employees. Nevertheless it can be seen that the country's space activities have skyrocketed since joining ESA, and the number of people involved in the space industry has increased multiple dozen of times within the last 2 decades. Governmental statements mention about 300 entities interested in the space industry basing on number of EMITS entries - an increase from just below 30 five years ago [1]. From those, about 50 entities, mostly SMEs are very active in the developing space industry.

All of them are searching for a new workforce, including graduates and young professionals. However, there is a gap between expectations set by space sector companies and presumed capabilities of fresh MSc/PhD graduates.

2. Program

The main aim of the program was to support SMEs in hiring talented graduates younger than 35 years of mostly technical studies, who were looking to start their career in the space industry. At first the companies were asked to list their interest in participating to the program. Candidates hoping to become interns could select the company, where they wanted to apply to. The candidates had to conduct interviews in presence of company and organizer representatives after which the final selection was made.

Already as interns the graduates were to work at the companies for six months. Within the first two rounds the program organizers were providing 50% of the intern's salary. And in the third round of the program this value was increased to 60%. The remaining salary was paid by the companies. This allowed to provide the young graduates a higher than average payment, and at the same time to prove their capabilities and develop new skills under their first employer. At the same time this approach allowed to reduce the probability of the young graduate to leave the country.

Each month the interns had to fill reports to the organizers on their progress and describe completed tasks, as well as describe their progress.

3. Impact and results

Initial results from the first and second round show that 16 interns out of 20 participating to the program continued to work in their selected companies after the completion of six months.

The second round features also the first foreigner to participate in the program, Hamed Gamal of Egypt, who was selected intern at Blue Dot Solutions. After the completion of six months he continued to work in the local space industry, however at a different company in the region.

Fig. 1. Selected interns to the second program round

Table 1. Entities participating to the 3 rounds of the internship program.

Entity Name	No. of interns
Adaptronika	1
Astronika	3
Blue Dot Solutions	2
CloudFerro	1
Centrum Badań Kosmicznych PAN (Space Research Center)	3
Creotech Instruments	1
GMV Innovative Solutions	1
Hertz Systems	1
InPhoTech	1
IRES Technologies	1
ITTI	1
OPEGIEKA	1
PIAP*	3
Sener	3
Solaris Optics	1
SpaceForest	2
Space Kinetics	1
Śląskie Centrum Naukowo-Technologiczne (Silesian Science and Technology Center)	2
Syderal Polska	1
Tech Ocean	1

*Counted as one entity, PIAP and its subsidiary PIAP-Space

From the 8 entities employing interns participating to the first round of the program 6 continued to the second and third round. Only Hertz Systems and Ires Technologies did not participate further to the program.

On the other hand in the third round more new companies decided to apply, as the opportunity and leverage of the program has increased with each year.

4. Conclusions

The Space Industry Human Resources Development internship program has proved to be a good tool in the development of the local space industry in Poland. It has been met with large acclaim from all involved parties, organizers, trainees and participating entities. The program's visibility has increased with every round. So far two editions were completed and the third number of interns were announced at the end of August [2]. Future editions of the program have already been announced by ARP and ZPSK. Additional funding is also to be allocated within the developed National Space Programme by the Polish Space Agency starting from 2019.

The internship training model seems to be a rational tool as a local support for the development of nascent space industries.

References

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