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OBRUM – AN INNOVATIVE MEMBER OF THE DEFENCE INDUSTRY

Abstract. The article discusses, taking OBRUM as an example, the importance of the entities that create innovations that strengthen the Polish defence industry. Historical changes in ownership status of OBRUM are presented shortly. Important areas of OBRUM's innovative activities are shown. The role of innovations that form the foundations for building the strength of the Polish defence industry is referred to.

In the summary, the role of innovative entities that have an effect on forging of the competitive edge is indicated.

Keywords: innovations, innovative unit, defence industry, OBRUM, ownership transformations, competitive advantage.

1. INTRODUCTION

The Research and Development Centre for Mechanical Appliances OBRUM Ltd. (OBRUM in short) in Gliwice for half a century has been conducting development work and research in the broadly defined area of state security. Over that period, legal forms of OBRUM's business activity have changed, but the goal remained the same - the creation of innovative solutions to be used by the Polish Armed Forces. Initially, OBRUM functioned as a research and development unit, having the status of a special defence industry unit, and since 2008, after the commercialization process has been carried out, it acts as a commercial company. After a two-year period of independent activity and direct supervision of the Ministry of the Treasury, in 2010 the company was incorporated into the Bumar Capital Group, and in 2014 OBRUM's shares were contributed to the newly created Polish Armaments Group (PGZ). The purpose of ownership transformations of the Polish defence sector, which included OBRUM, managed by the State, is to create an economically efficient Capital Group of the Polish defence industry which would have at its disposal advanced technologies and would provide arms and military equipment for the State defence and security [1].

2. OBRUM's INNOVATIVE INITIATIVES

In its initial period OBRUM polonized the documentation of the T-72 tank, which until recently was the basic armoured fighting vehicle in Poland, while creating a number of engineering support vehicles and trainers for that tank. It was at OBRUM where efforts were made to create a Polish universal armoured platform, which resulted in the emergence of a technology demonstrator known in the public domain as a light tank code-named Anders, a conceptual model of the PL-01 tank or the Direct Support Vehicle. Now the company is known for the construction of the family of Daglezja mobile bridges, using modern solutions in power hydraulics, control and automation systems, enabling overcoming terrain and water obstacles 20 to 40 metres wide. The bridge program is one of the elements of the company's offer addressed to the engineer troops, which also includes deliveries and repairs of MID

Engineering and Road Machines, development concepts of a pontoon bridge, concept of a universal bridge support construction set, concepts of a universal engineering machine for earthworks and a concept of a rescue amphibian.

OBRUM also has experience in technology transfer, as evidenced by completed foreign contracts related to the creation of tank repair stations, followed by modernization of the stations to carry out repairs of WZT Recovery Vehicles and by the delivery of engineering vehicles and training devices for tanks. Technology transfer included both the provision of necessary technical documentation, delivery of machinery, devices and technological equipment, spare parts, as well as necessary customer support in establishing repair and maintenance facilities.

The production of simulators and virtual trainers is a new, rapidly expanding and recognizable in the market area of activity where, with the use of IT techniques based, among other things, on virtual reality and augmented reality, support for training and maintenance processes related to the delivered equipment is offered. Among the designs that OBRUM has already provided to customers, the procedural simulators of MS-20 Daglezja bridges, 3D virtual training devices for the Jelcz vehicle engine, e-learning programs and a computer application using augmented reality technology for the Rosomak Wheeled Armoured Carrier deserve special attention.

In addition, OBRUM actively cooperates with the National Centre for Research and Development (NCBiR), acting as a leader or consortium member of a number of innovative programs in the field of combat vehicles, unmanned vehicles, armour and intelligent image analysis systems. Cooperation with NCBiR is particularly important due to the co-financing offered by NCBiR, allowing to carry out costly and long-term development work with limited spending of own funds.

3. INNOVATION AS A SOLID FOUNDATION FOR THE BUILDING OF THE STRENGTH OF THE POLISH DEFENCE INDUSTRY

The main challenges in the effective creation and implementation of innovative products is primarily proper prediction of the expectations and needs of the Polish Armed Forces, elimination of the technological gap and development of the scientific and research staff. Anticipation of the needs can be realized through intense actions that allow to propose new, innovative products and solutions, and thereby participate in a way in the process of creating the needs of the future product users. The effectiveness of these actions depends to a large extent on the formulation of transparent rules and the manner of information exchange between suppliers and state institutions - potential customers. The time horizon and stability of the plans formulated by the Polish Armed Forces are also important, as economic decision making is preceded by economic calculation and risk assessment, and the volatility of requirements and plans, as well as the dispersion of decision making centres, effectively raises the level of risk, in many cases deterring potential project developers and thereby limiting funding opportunities.

The technological gap and the generation gap, mainly related to the lack of continuity of financing of innovative projects, should be filled in the short term. This can, for instance, be achieved by acquiring foreign technologies. In most cases, however, this comes down to buying finished products, without the possibility of their improvement or modification, and with limited access to key technologies. The alternative that is worth considering is the development of proprietary products in those sectors where we have expertise and a chance to

gain competitive advantage. Paradoxically, these two solutions do not exclude each other, they can even complement each other. Acquiring foreign technologies, the development of which in Poland would be economically ineffective, is highly desirable, and the application thereof in specific industrial solutions will allow to fill the technological gap in a short time. Launching of proprietary innovative products with the use of selected foreign technologies will not only enable to control the product configuration and its life cycle, but will also attract employees seeking interesting and ambitious challenges. When developing the scientific and research staff, use must be made of the experience of equipment users who, upon terminating their service in the army, should become a natural support for the Polish defence potential.

It should be noted that this will not be achieved without the participation of those who have the ability to conduct research and development work, and who have the special ability to put the results of research into practice. The operation of entities specializing in conducting research and development work within capital groups allows to create stable conditions for the development of innovative products and ensure serial production launch, enabling the achievement of the desired return on investment. The important support that allows increasing the economic effectiveness of research and development work is legislation, which may be used by the organization that conducts such work. That includes, among other things, tax preferences and exemptions, which allow limiting the amount of income tax paid (creation of an innovation fund, deduction from the taxable base for tax-deductible costs incurred for research and development activities, so-called eligible costs [2], [3]), local taxes (taxes on real estate, agricultural tax, forest tax) and a higher intensity of financial support of ongoing development work. Some of these preferences depend on the organization having the status of a research and development centre, granted by the Ministry of Development [4], and some of them is associated with conducting research and development works as such. Attempts to achieve synergy in the operation of a research and development organization and a manufacturing enterprise can be observed in the PGZ Capital Group, where OBRUM is the creator of innovation, and the entity that launches manufacture of products based on innovative solutions is ZM "Bumar-Łabędy" S.A.

Supporting innovative entities and building the Polish defence potential based on modern, innovative technologies are in line with the Strategy for Responsible Development adopted last year by the Government of Poland, according to which innovation is one of the most important developmental impulses necessary for the reindustrialization of the economy [5].

4. SUMMARY

The potential competitive advantage of the PGZ Capital Group is that it includes entities that, due to the profile and extent of their activities, may in the near future gain the ability to meet most of Poland's needs in terms of security, in its broad meaning, while achieving cost-revenue synergies stemming from the extent of the conducted activity. One of the entities of Polska Grupa Zbrojeniowa is OBRUM, a scientific unit that continuously and comprehensively deals with conducting research and development work and implementation of the results thereof in the form of launching serial production by companies of the capital group. The activities of the entity that creates innovations within the structures of the capital group are mutually beneficial. For the capital group, it is a source of new products that meet the needs of the Polish Armed Forces and strengthen the Polish defence industry, and it allows the research unit to obtain professional corporate support and gain economic and

financial stability. In the long term, the building of the Polish defence industry on innovative technologies should bring effects in the form of warranting Poland's security based on the national defence potential and create opportunities for the sale of innovative solutions abroad.

5. REFERENCES

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