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**PREDICTED CONSEQUENCES OF THE  
UKRAINE/RUSSIA CONFLICT FOR THE  
UKRAINIAN SPACE INDUSTRY AND  
POTENTIAL ROUTES FOR ITS  
CONTINUED OPERATION**

**A REPORT IN CONFIDENCE TO  
CST MEMBERS, ASSOCIATES  
AND CUSTOMERS**

**Commercial Space Technologies Ltd  
67 Shakespeare Road, Hanwell, London W7 1LU  
Tel: 020 8840 1082 Fax: 020 8840 7776 E-mail: [cst@commercialspace.co.uk](mailto:cst@commercialspace.co.uk)**

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## INTRODUCTION

This report is a direct continuation of the CST report /1/<sup>1</sup>, dedicated to the influence of the current Ukrainian-Russian conflict on the continuation of space activities in both the countries involved, with special regard to the impact on Russia.

A range of current Russian space programmes and projects, being realised using Ukrainian products and components, was assessed in /1/. It included programmes of significant importance for supplying launch services to the world space market. Programmes such as the ‘Dnepr’ and ‘Sea Launch’/‘Land Launch’, in which the Ukraine-built launch vehicles used, were analysed from the potential of their continuation to play a leading role in the Russian space industry. The influence on those programmes which did not have direct dependence on Ukrainian participation, but used Ukrainian supplied components, such as the ‘Rockot’ and ‘Soyuz-U’, were studied as well.

In general, it was shown there that the Russian space industry would continue its national space activities, and the supply of launch services for foreign commercial missions, even without collaboration with the Ukrainian space industry, although it would suffer some problems, the solving of which, would eventually have a positive effect, since it would decrease the industry’s dependence on non-Russian supplies.

It is also possible to assess the situation from the Ukrainian perspective, highlighting the consequences this current confrontation would have for the Ukrainian space industry, and for the activities being developed by their industry for servicing national space missions, the global space market and supplying international projects.

The current situation with Ukrainian space activities and industry is described briefly, and assessed in **Section 1**, where the plans and programmes for national space activities and international collaboration, adopted before the start of the crisis in early 2014, are listed in **Sub-section 1.1**. The influence of the deterioration of the Ukrainian-Russian relationship, and its negative consequences for the Ukrainian space industry and its operations, is then described in **Sub-section 1.2** (a similar description but with regard to the Russian space industry is contained in /1/), whilst the current situation regarding the Ukrainian space industry’s international collaboration is described separately in **Sub-section 1.3**, taking into consideration the continuing conflict and its accompanying political and economic influencing factors.

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<sup>1</sup> The Ukraine/Russia Conflict: Losses and Gains for the Russian Space Activity, CST report, 2014.

The general assessment of the current situation in the Ukrainian space industry and activities, given in **Section 1**, is expanded in **Section 2** to specific programmes and projects being developed by the Ukrainian space industry, and which would be impacted by knock-on effects of the continuing conflict. A range of these programmes and projects, described and assessed in **Sub-sections 2.1-2.8**, does not include those which have not yet started a practical development phase, for example, the ‘Mayak’ launch vehicle project, but does include programmes being jointly developed with the Russian space industry<sup>#</sup>. The Ukrainian national programmes without direct Russian participation, but which cannot be achieved without Russian support in any form (the ‘Sich’ and ‘Lybid’) are included too. Finally, international programmes, which are seen as quite independent from the influence of the conflict (‘Cyclone-4’, Antares and Vega), are also included in the assessed range, since the conflicts influence could manifest itself indirectly. At the same time, the ‘pure’ Russian programmes, which are experiencing a negative influence from the conflict (for instance, the ‘Rockot’ and ‘Soyuz-U’), are not assessed in **Section 2**, since they were assessed in sufficient detail in /1/, whilst the influence of changes in these programmes on the operation of the Ukrainian space industry would be minimal (termination of certain component supplies only).

From the results of the study carried out in /1/, the Ukrainian space industry might not exist quite so autonomously and independently, to enable development of its national space programme and commercial services, so attempts to forecast the future for this industry must be caveated by the assumption of the basic political process scenario along which the country would follow. There are two versions of this scenario: either the current conflict will end by finding a compromise enabling restoration of normal business relationships between the Ukraine and Russia (an assessment of the relevant political conditions are beyond the scope of this report), or development of the current process of convergence with the European Union, will lead Ukraine to membership of this Union, but not as a first rank member. Whilst it would be possible for restoration of economically productive relationships with Russia (although not at the past scale) in the case of the first scenario, the second scenario promises Ukraine an auxiliary role of sub-contractor in the European space industry. Both these scenarios are studied in **Section 3**, with an assessment of prospects for Ukrainian space activities and industry in both cases. It is noted that a third scenario based on Ukraine becoming a non-aligned country, with an independent space industry, is not examined, due to the impossibility of this scenario occurring in the current conditions.

The **Conclusions** contain a brief summary of the information presented in this report.

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