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House of Commons

Science and Technology
Committee

**Work of the
European and UK
Space Agencies:
Government
Response to the
Committee's Fourth
Report of
Session 2013–14**

**Eighth Special Report of
Session 2013–14**

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Science and Technology Committee

The Science and Technology Committee is appointed by the House of Commons to examine the expenditure, administration and policy of the Government Office for Science and associated public bodies.

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The Reports and evidence of the Committee are published by The Stationery Office by Order of the House. All publications of the Committee (including press notices) are on the Internet at <http://www.parliament.uk/science>. A list of reports from the Committee in this Parliament is included at the back of this volume.

The Reports of the Committee, the formal minutes relating to that report, oral evidence taken and some or all written evidence are available in printed volume(s). Additional written evidence may be published on the internet only.

Committee staff

The current staff of the Committee are: Dr Stephen McGinness (Clerk); Leoni Kurt (Second Clerk); Victoria Charlton (Committee Specialist); Darren Hackett (Senior Committee Assistant); Julie Storey (Committee Assistant); and Nick Davies (Media Officer).

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Eighth Special Report

On 28 October 2013 the Science and Technology Committee published its Fourth Report of Session 2013–14, *Work of the European and UK Space Agencies* [HC 253]. On 6 February 2014 the Committee received a memorandum from the Government which contained a response to the Report. The memorandum is published as Appendix 1 to the Report.

Appendix 1: Government response

The Government welcomes the Science and Technology Committee's report on the Work of the European and UK Space Agencies and the positive assessment of the impact of recent Government support for the space sector.

The Government shares the Committee's view that the UK space sector has real potential to be a great success story for the UK economy. The sector already has annual growth rates averaging 7.5% over recent years. The Government's focus in the National Civil Space Strategy is to support the continued growth of the sector to capture 10% of the global space market by 2030. That would result in an estimated additional 100,000 jobs and give the UK a space sector worth £40bn a year.

There is a good degree of coherence between the Committee's recommendations and the advice offered to Government from the UK's space sector in its Space Growth Action Plan.¹ The Government has therefore considered the Committee's recommendations together with those from the space sector in preparing this response.

The Committee notes the positive comments made by witnesses in support of the leadership already shown by Government through the UK Space Agency but also notes the concern from some that additional resources may be needed to meet the demands now placed on it. The Government recognises that the ambition of the sector does demand additional support. Additional roles have been created in the Agency in space science, industrial growth, European Union programmes and export which will amount to an expansion of 50% to 60 FTE staff.²

Since the Committee took evidence in the summer, a number of important announcements continue to demonstrate the Government's support for the space sector:

- an £80 million Global Space Collaboration Programme has been launched to support UK collaboration with emerging nations;
- EU State aid approval secured for £21 million of funding for Novasar, an innovative, low-cost radar satellite to be launched in 2016 with potential for repeat orders worth £500 million to the UK economy;

¹ <http://www.bis.gov.uk/assets/uk-space-agency/docs-2013/igs-action-plan.pdf>

² March 2014 compared to March 2013

- UK start-up investment of £60 million for development of SABRE—the novel air breathing rocket engine that could open the way to new launch capabilities at much lower cost than present;
- successful launches of Alphasat, Europe's largest communications satellite which was built with Government support, Gaia which uses the largest ever digital camera put into space, built in Britain by e2v Ltd and SWARM which will measure the Earth's magnetic fields with unprecedented accuracy;
- a new cooperation agreement with France and a £15 million investment to cooperate with the French space agency CNES on 2 missions to measure the atmosphere and the global distribution of fresh water.

The Government notes the Committee's comments on gender balance in industry and its intention to consider the issue further in its inquiry into women in STEM subjects.

Responses to specific conclusions and recommendations from the Committee are provided below.

Support for business

1. **We welcome the Minister's commitment to review whether the processes for approving licences or export applications could be made to work more smoothly. We recommend he publishes the outcome of this review in the response to this report. (Paragraph 14)**

The Government's aim is that UK regulation is proportionate and balanced so that industry is not unduly disadvantaged compared to international rivals. The Government acknowledges that there are concerns around whether that balance is right for the UK's licensing regime for satellite launches.

The starting point for our national licensing regime—the UN Outer Space Treaty—is the same for all signatory states and national implementation needs to be compliant with these obligations. Before the Committee's inquiry started, the Government had already announced a reduction in the requirement on licensees to obtain 3rd party liability insurance from £100 million to €60 million for standard missions. The Government also consulted on a proposal to cap the unlimited indemnity to the UK Government against any proven third party costs to €60 million for the majority of missions. The Government's response was published in December and work will now begin to implement these changes.

Industry has said that the UK regime provides a strong and internationally highly-regarded framework of regulatory principles and that receiving a licence under the UK's Outer Space Act offers credibility at an international level. In considering any further reform of the licensing regime, the right balance must be struck between the risk of failed space activities and the economic and scientific benefits gained from those which are successful. The UK will maintain its reputation as a responsible regulator that complies with international obligations.

In its Growth Action Plan, industry has proposed that Government creates a group of representatives of industry, operators and SMEs to consider simplification of the licensing process where practicable. Industry also proposes to review the competitiveness of the UK's business environment for the space sector on a rolling three-year basis to benchmark the UK against other countries.

The Government will establish and coordinate the industry group recommended and work closely with the sector to understand its concerns. The Government considers that this will create valuable input to consider whether improvements can be made. Where compatible with the UK's international obligations, appropriate action will be taken.

In addition, the Government will also review the full economic cost of the space licensing regime to ensure value for money for the tax-payer.

Increasing UK exports from the space sector is fundamental to achieving industry's ambitious targets for growth. To capture 10% of the global space market, the space sector's action plan sets out that a 12-fold increase in exports is needed over the next 16 years.

In maximising export opportunities and with full regard for security interests, UK Space Agency will work closely with Export Control Organisation to consider the often complex issues surrounding service provision agreements and data and imagery transfer, as well as other issues of mutual interest. Where more routine export licence applications are concerned, the UK Space Agency will liaise with the company making the application and the Export Control Organisation to effect a timely conclusion to the application process. The Government has already published guidance in 2011 on the security aspects of export control.

Licensing decisions will continue to be made on a case-by-case basis against the Consolidated EU and National Arms Export Licensing Criteria and be consistent with the United Kingdom's European Union and wider international obligations and commitments. The technology used in civil and military space is often common to both, making most technology 'dual use'. While this can create a wider market and reduce the cost of such development for space security applications, it can also make it more difficult to control the proliferation of sensitive technology. A balance must be struck. The UK Space Agency will encourage the development of technology with wider applications that is consistent with our space security objectives.

The Export Control Organisation is committed to continually improving the service provided to exporters and a number of reforms are in hand. Progress was made in 2013: around 79% of individual licence applications were processed within 20 working days compared to 71% in 2012; and in March a new secondary target was announced of completing 99% of applications within 60 working days.

The UK space sector has recommended initiatives to support an increase in the levels of export. The Export Control Organisation will attend industry's quarterly 'Are you Export Ready' symposia aimed at SMEs and will join the strategic export group that the UK Space Agency will establish during 2014.

The Government has established a new £80m Global Space Collaboration Programme for work with emerging and frontier countries to promote economic development and welfare creation.

Growth through smarter Government

- 2. It seems clear that Government could do more to aggregate its own demand for space-derived services. The publication of the national space policy later this year should be used as an opportunity to communicate the potential uses of space to Government departments and push discussions on the use of space applications up departmental agendas. We recommend that the Government extends further support to the UK Space Agency in its efforts to coordinate demand for satellite applications across Whitehall. The Government should define the challenges currently facing the public sector which may be solved through space technology so that the UK Space Agency can engage industry in helping to solve these. The Government should engage proactively with the UK Space Agency to develop a strategy to achieve this. (Paragraph 19)**

The Government welcomes this recommendation. The public sector is already a significant user of space-based data and services but there are still considerable benefits and savings to be made from even greater use. The public sector can play a key role in developing the UK space sector by increasing the size of the domestic market through use of technologies to bring about efficiencies and cost reductions, and by acting as an anchor tenant for the export of applications and services. There will be a significant increase in the amount of free data and number of free services available to the Government from programmes already underway.

The 'Space for Smarter Government Programme' (formerly the National Space Applications Programme) is a £0.5 million programme run by the UK Space Agency in close cooperation with the Satellite Application Catapult and the Technology Strategy Board to support these objectives. An office and a team will be in place by April 2014 providing a neutral 'friend' and source of advice to public sector bodies to explore the use of space data products and services. The team will help to secure funding from existing budgets and funding mechanisms such as the EU's Horizon 2020 research initiative. The programme will seek to highlight to the public sector, at national and local level, the opportunities that space can bring and encourage it to be an enlightened and innovative user of space-enabled services.

The longer term aims of the programme are to create intelligent customers and users within public sector bodies which can help to aggregate the demand for space based solutions and technologies. Aggregation of demand could influence the services that could be available in the future and lead to tasking the satellites for example for specific products or services.

The Satellite Applications Catapult has started work with several public sector bodies, and local and central Government will be included in the outreach and marketing of space for non-space sectors through the 'Satellites for Everyone' programme.

In addition the Technology Strategy Board has expanded its team of experts in space navigation and applications so that the UK space sector can make the best use of the opportunities for funding.

Return on UK investment

- 3. The UK has secured a demonstrable return on its investment in the European Space Agency. This should encourage the Government to make similar commitments in future. (Paragraph 24)**

The Government is pleased that the Committee is convinced that the substantially increased investment in ESA optional programmes made in 2012 has already produced a clear benefit for the UK space sector.

ESA's transfer of 100 staff to Harwell to create the European Centre for Space Applications and Telecommunications (ECSAT) will make the UK the focus of ESA's telecoms and exploitation activity. The UK is one of the largest subscribers to the ARTES³ programme and is the largest subscriber to the Integrated Applications Programme (IAP) which is ESA's flagship applications programme.

Investments made in 2012 also secured the flight of Major Tim Peake to the International Space Station next year. The Government will put in place a comprehensive programme to promote interest in space and STEM subjects in the run up to Major Peake's flight.

In its advice to Government, the space sector has proposed to produce an economic analysis of the actions that result from the Government's investment in ESA optional programmes. This is very welcome. Evidence of successes from earlier investments will clearly be an important element in deciding whether to invest further in future.

The next ESA Council of Ministers is expected to take place in December 2014 with a remit focussed on subscriptions to the International Space Station and the European launcher development programme. Depending on the final scope of the Council, the UK will consider through a business case whether further investments in the optional programmes under discussion would bring additional benefits to the UK, enable delivery of the National Civil Space Strategy and support the growth of the UK industrial sector.

The UK's position in ESA

- 4. The UK's presence in ESA could be further strengthened by the appointment of a UK national in post as director. Simply hoping that UK candidates will apply and be successful is insufficient. We recommend that the Government take steps to put in place support mechanisms for potential candidates alongside a concerted drive to increase the UK's representation amongst ESA's senior staff. (Paragraph 29)**

The evidence presented to the Committee reveals a range of views about how countries can influence ESA to meet domestic objectives and the degree to which a national employed as a Director could increase national influence. The Government notes in particular the Director General's specific observation that influence is also related to the level of

³ Advanced Research in Telecommunications Systems

investment in ESA's optional programmes where weighted voting is becoming more common. It is the level of influence in ESA as a whole that matters and that is determined by our level of investment and national expertise as well as staffing in key posts related to the delivery of the Government's objectives.

However, the Government agrees with the Committee that UK nationals in key ESA Director posts or above could be positive for the UK's interests. The Government considers that it is manifestly unfair that such a major contributor to ESA as the UK does not have a national holding a post at Director level or above.

The UK Space Agency is discussing options for ESA Director posts with potential UK candidates. The Agency will provide support and advice, including from former ESA Directors and other senior ESA staff, providing briefing on key issues and offering support on key skills necessary so that the UK is able to put forward well prepared candidates for key operational Director posts at the end of 2014.

The Government notes that overall, the number of UK nationals in ESA is in line with our percentage contribution to the organisation.

A "rapprochement" of ESA and the EU

5. **The EU will be an important player in the space sector over the coming years. However, its role is distinct from that of the European Space Agency (ESA). ESA has specific strengths made possible through its current structure and organisation. Rather than seeking to oversee ESA's work, the EU should focus on developing its role as a policymaker and customer for space services, leaving ESA to act as a technical or design authority. We recommend that the Government resists attempts by the European Commission to bring the European Space Agency under its control. We also recommend that Sir Mark Walport, Government Chief Scientific Adviser, raises the scientific rationale behind this recommendation with Professor Anne Glover, the Chief Scientific Adviser to the President of the European Commission. (Paragraph 37)**

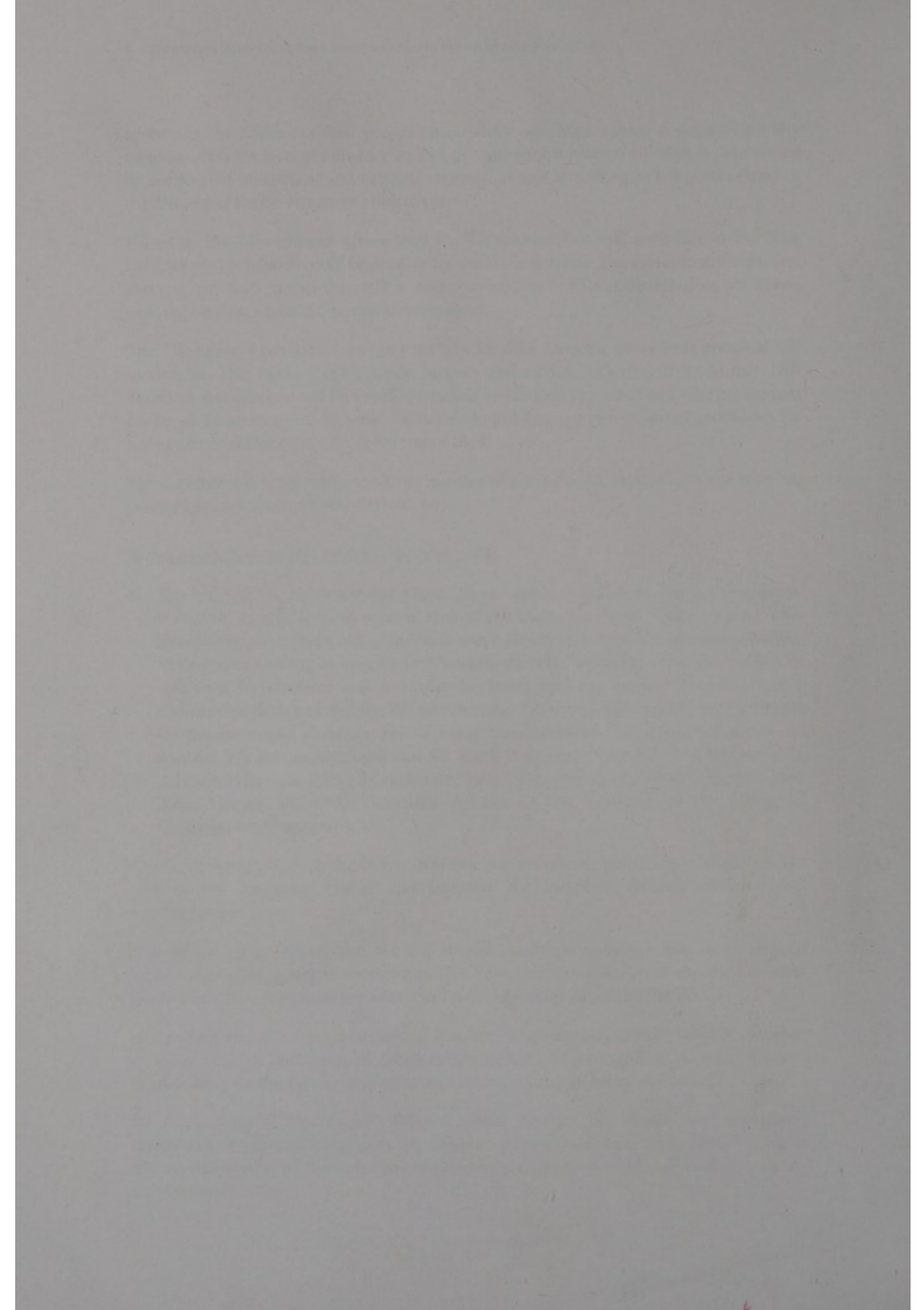
The Government supports the Committee's recommendation that ESA should not become part of the European Union and supports the indicated division of roles and responsibilities.

The debate on how ESA and the EU should cooperate in future and what form of relationship is necessary is continuing. The European Commission is expected to issue preliminary conclusions shortly which will form a basis for debate on the EU side.

In the Government's view, it is essential that the European Commission and ESA see each other as valuable and essential collaborators with a common goal of securing a larger market share for the European space sector in the growing global space market.

Sir Mark Walport, Government Chief Scientific Adviser, has drawn the Committee's report and its recommendation to the attention of Professor Anne Glover to ensure that the science aspects of these discussions are being fully considered within the European Commission.







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