

From “Newspace” to “new space policy”

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#EUSpace #Newspace #SpacePolicy

Since a few years, several institutional actors in Europe are promoting policy measures aiming at developing what is commonly called the “newspace”. Nevertheless, a definition of what is being understood by “newspace” is often lacking; consequently, the policy objectives are generally unclear, and are prone to divide rather than to federate private as well as public stakeholders.

This paper is an attempt to frame the discussions about the concept of “newspace” and to identify misunderstandings and misconceptions associated with this concept, particularly in Europe.

Our objective is to try to better understand the respective concerns and ambitions of a variety of stakeholders (private actors, space agencies, national authorities, European institutions...); it is also an invitation to European public decision-makers to accompany the modernisation of the sector by acting on its most impactful economic dimensions.

What is “newspace”?

Newspace is a poorly defined phenomenon, the beginnings of which can be dated to the end of the 1990s with the development of initiatives and private actors around markets and concepts perceived as “emerging”¹.

The perception of newspace in its economic dimension was popularised by the publication, in 2016, of the “Start-up Space” report by the consultancy company Tauri Group (now Bryce) which highlights the new sources of financing by trying to measure the funds (equity) raised by new space companies. By revealing annual amounts of capital investment exceeding \$5 billion/year in recent years, the Bryce report has favoured an economic reading of the phenomenon, and its perception as a major trend.

Today, newspace is generally “defined” (or described) as an environment characterised by a context teeming with new private initiatives, supposedly independent from the large traditional public markets constituted by the space agencies and defence budgets, financially backed by the venture capital sector and investment banks, sometimes linked to the giants of the Silicon Valley, and associated with a promise of disruption/innovation through the introduction of new technologies, system approaches and modes of production. This disruption/innovation is often associated with strong expectations about the emergence of new services markets.

In the USA, the newspace movement was concomitant with an evolution of the contractual approach of NASA and the DoD. From a contractual point of view, **the main characteristic of this new approach lies in the implementation of different PPP schemes, with a view to a long-term public commitment for the**

¹ such as space tourism, around the initiative X-Prize, giving rise to the creation of innovative start-ups such as Scaled Composites, Microcosm, Kistler, Space Adventures, Bigelow and, later, SpaceX

acquisition of services offered by private operators (the DoD multi-year launch service purchasing system in “batches” was a pioneer in this regard). This new approach is reflected in particular by:

- **A new distribution of costs and risks between public authorities and industry**
- **A transfer of control of the main technical characteristics of the program from the public to the private**

If such an evolution has been possible, it is thanks to the maturity reached by the traditional/historical space industry (Boeing, Lockheed, ULA, Northrop, Maxar...), which has allowed it to achieve greater autonomy in the development and management of space programs; currently, the vast majority of newspace companies have not yet reached this maturity².

Finally, the transition from a “infrastructure acquisition” approach to a scheme consisting in the “long-term commitment to the purchase of services” allows private operators to further leverage their investments by selling additional services on secondary markets at marginal cost.

This development could have medium/long term effects, and in particular the diversification of technical responses, and may eventually promote:

- Innovation in industrial processes
- Innovation in infrastructure and systems
- The emergence of new players attracted by less risky market prospects
- The emergence of new markets for services

Putting the cart before the horses: four misconceptions in promoting “newspace” in Europe

With the goal to promote in Europe the effects mentioned above, several institutional actors express since a few years the political wish to “modernise the space sector” (“*to change the mindset*”), but in our opinion, they are making four mistakes.

1. The first mistake is to confuse causality with synchronicity: the proliferation of newspace start-ups and the change in the contractual approach of NASA and DoD took place at the same time, one is not the direct consequence of the other. In other words, **it is not enough** to stimulate venture/risk capital to create a SpaceX in Europe, **it also requires a significant volume of public procurement capable of creating the outlets favouring the development of companies**.
 - This mistake feeds on the systematic omission of the difference in the level of public funding between Europe and the USA (by a factor of 6, at least), and also failing to realize that the “European” investment is essentially the sum of largely uncoordinated national investments that are giving much less freedom to entrepreneurial initiative.

² only SpaceX, Planet and Blue Origin are currently well positioned in this market segment

2. The second one is to confuse “success story” with sectoral trend: the highly publicized³ successes of SpaceX, Planet, and Blue Origin (for example) do not necessarily create a trend; the proliferation of the newspace is mainly made up of a multitude of companies that will never reach commercial maturity.
 - This error is related to the current focus of the political ambition on a keyword (“newspace”) without assessing its dynamics and economics, and its technical fundamentals, and without consideration about the specific environment and public support that actually helped build the very few success stories.
3. The third one is to believe in the spontaneous development of viable markets outside of ambitious initiatives on the part of the public sectors. The past bankruptcies of Globalstar and Iridium, and more recently of Onweb, have demonstrated the economic damages that overly optimistic expectations about the viability of emerging markets can cause. Besides, **it is not impossible that the “newspace” is currently developing on a speculative bubble associated with overly optimistic expectations of market prospects supported by uncertain technological disruption**. Regardless, these markets and actors will not spontaneously replace public authorities for the pursuit of political or strategic objectives.
4. The last one is the failure **to define with precision the goals to be achieved** in the context of the (permanent) revision of space policies: is it to create wealth? or to reduce the amount of public investment? or to allow the emergence of new players outside the “traditional” states where the space industry is located? maybe it is the reduction of the cost of space infrastructure? or the improvement of the cost-effectiveness of space programmes? the sheer promotion of innovation? or is it the reduction of the market share of the large historical players in favour of smaller companies?..
 - This mistake is further reinforced by the three preceding ones, seeing the proliferation of newspace start-ups as a bedrock, enabling in itself a “change of paradigm”. This leads to proposing measures (e.g., “to increase private investments”, “to promote new entrants”, “to support the actors of the downstream” etc.) whose ultimate impact on the space sector is unknown or not demonstrated.

In doing so, we consider that public authorities in Europe are squandering considerable resources while failing to take the structural measures that would enable the growth and modernisation of the European space sector.

³ ...and self-stated. Let us recall that neither of these companies has published financial statements, all have very uncertain business cases and unknown economic fundamentals.

Recommendations to “modernise” the space sector in Europe

We don't pretend here to give a full lecture on effective industrial policy, but we believe that three very simple good sense measures may go in the right direction, for a healthier, more modern, more agile, space industry in Europe:

- **Increase the level of public investment in space**, improve the consistency of these investments, and recognise at once that **the appropriate dimension to guarantee the “foundations” of any space policy** (safeguarding the capabilities; strengthening the resilience, competitiveness and reliability of the industry; and enhancing the technological non-dependence, like all the major space powers are doing) **is European, not national**⁴.
- **Encourage the use by public authorities of space-based services** (for instance through norms and regulations, or a service-oriented policy), in order to create a sustainable primary institutional market that will enable/accelerate the emergence of profitable secondary commercial markets.
- **Use procurement approaches that will allow the private sector** (whatever it may be: SMEs, start-ups, midcaps, or large groups) **to redefine its role in risk taking and in the financing of space programmes** (the micro management of fair return imposed to ESA today represents the antithesis of this approach).

⁴ The current cacophony surrounding the emergence of the “Co-programmed Partnership” intended to support the space sector competitiveness under the Horizon Europe programme (with each nation playing a different score), is just the latest example of the inefficiencies provoked by the inconsistency between national and EU space policies.