SPACE DATA FOR CULTURE

° The **'Space data for culture'** issue takes formally note of new convergences between disciplines that are too often artificially split. New convergences between the economic, industrial, technological, academic, cultural and institutional worlds.
Space for culture, space data to serve culture, and, let's be very clear on this, neither culture by space data nor algorithms to determine how culture should look like!
Space data are a tool, we insist on it, and cannot or should not steer any culture policy.
As stated by the great Israeli thinker HARARI in his most recent book 'Twenty-one lessons for the twenty-first century', 'data-ism' should not be the new world religion. Data should just be a tool in order to have a larger view of what culture could bring us.

° Because **culture** is the fabric of our lives and societies all over the world. And culture is a principle that goes far beyond of what is usually qualified as being 'cultural'. So is culture linked to climate; and culture will largely be affected by climate change.
Let's just think about landscapes and how they are shaping our environment.

How the harmonious synergies between soil and soul, between nature and what men create, are a dimension of us as human beings, of our culture being.
Culture is an essential link in the European civilisation value chain. And culture is connected to curiosity. It prevents stagnation, complacency and lack of ambition.

° Our **European culture** project is encompassing all dimensions of our 'living together'.
Culture makes exchanges between European peoples possible, and it allows, through such exchanges, access to the imagination and dreams of those who share our Union. The European Union is in essence a 'culture project'. In that sense it plays an essential role, enabling us all to come closer to what I would call 'the European spirit'. A spirit which is our European "supplément d'âme". What forges our European spirit, our European identity, is expressed in our culture. In the way we engage in dialogue, in how we share and exchange, discover and rediscover, interpret and reinterpret our cultural heritage.

° In the same way that culture is the fabric of our lives and societies all over the world, **cultural heritage** is, especially for Europe, the cornerstone of our civilisation. We the peoples of Europe are bound by a common cultural heritage that we celebrated in 2018 all over our Union.
And that heritage, far from denying diversity, is the outcome of exchanges and sharing.
A common cultural heritage that must be kept alive, in order to assimilate it better and thus better develop it. Using the past as a shore from which we can build a bridge towards the other shore which is our future. And, as I stated before, culture or cultural heritage are connected with curiosity, with what we could call innovation, technology or even 'applied creation'.
Culture and cultural heritage are always looking for progress; also for technological progress.

° And, in their turn, **technology and creativity** can help us to protect and to make better use of our cultural heritage. And so, we have come full circle. That's why our space endeavour, which is fully part of a technological progress, is linked with European culture. That's why the exploitation of space data is linked with cultural heritage.

Our motto could be: ' More culture for a better space policy; and more space policy – or if you prefer, more space data – for a better culture policy'.

° Let's look at the **'More space data for a better culture policy'** side. And let us give three examples of how space data and their conversion into usable information are an essential tool to discover, to restore or to better monitor cultural heritages.

First example, to discover cultural heritage. Indeed, these recent years, we have experienced how remote sensing technology, including satellite imaging, is revealing the traces of past civilisations that have been hiding in plain sight. Just to mention one example: in the year 2014, David MATTINGLY, an archaeologist at the university of Leicester in the UK, discovered that many Garamantin sites showed up in stunning detail in satellite photos.
The Garamantes being a civilisation that started to decline after the year 700 of the Common Era. By analysing the satellite images taken in an area of about 2.500 square kilometres in the Sahara of southern Libya, he located 158 major settlements, 184 cemeteries, 30 square kilometres of fields, plus a variety of irrigation systems.

Second example, this time to help to restore cultural heritage. The Islamic State (that is, as to me, neither Islamic nor State…) carried out in recent months intentional damage to the world's cultural heritage, in Palmyra for instance. Earth observation data provided important information to assess the damage in such hardly accessible areas. In this framework automated image processing is a useful technology to speed up the analysis if a fast response is desired.

Third and last example (but we could go on for hours…), **to better monitor** cultural heritage. Example better known as 'The Volterra case', an Italian town of great historical interest which includes a 2,6 km long Etruscan-medieval wall enclosure.
During the year 2014, two impressive collapses occurred on this wall enclosure. Following these events, a monitoring campaign was carried out by means of remote sensing techniques, such as space-borne radar interferometry. The outcomes of this work demonstrated the usefulness of different remote sensing technologies for deriving information in risk prevention and management.

These three examples show that thanks to what we have called 'the space tool', we are in a position to better defend and promote the various cultures around the world.

° And 'we' means in particular **the European Commission** and **the European Space Agency** which visions are to enable the maximum benefit of data for science, society and economic growth.

To this end, ESA has developed scientific satellite systems to advance the scientific agenda related to the understanding of the Earth system, a scientific agenda which has served as breeding ground for all EO operational programmes, including 'Copernicus'.

For several decades, ESA has been providing the user community with access to data from its own satellites, third-party satellites and now from the Sentinel satellites of the EU Copernicus programme. Thanks to 'Copernicus', the EU becomes one of the biggest data providers in the world, the Sentinel satellites collecting continuously data, ensuring sustainability and also continuity.

As the former President of the European Council, Herman VAN ROMPUY, put it a few years ago: *'data, and space data which are part of it, are the new oil of our economy'*. And we would add that they are also the new cornerstones of our cultural heritage.

° But space data are not, on their own, a useful tool to enhance cultural heritage.
And the enormous wealth of data is a challenge for traditional data processing and handling.
More and more applications should be 'platform-based' in the future.
And to reach the users, the culture world, it is important that data providers and platform operators join forces. That's why ESA has set up an **'EO innovation Europe'** system, which aims at building a network of sustainable EO applications platforms and promoting a digital space ecosystem.

'EO innovation Europe' has three main objectives to further empower data users such as the world cultural heritage community:

- firstly, to enable large scale exploitation of EU data, meaning giving the possibility to a large number of users to do more with EO data;
  - secondly, to stimulate the innovation with EO data,
  - and thirdly, to maximise the impact of the European EO assets without being dependent on a non-European business scheme [namely Google].

Another initiative, more commercially oriented, is the Copernicus DIAS initiative, DIAS standing for 'Data and Information Access Services', initiative launched in 2018 in Baveno by the European Commission, initiative expected to revolutionise the way data is accessed, boosting user uptake and stimulating the creation of new business models.

° But, remember our introductory words, 'data-ism' should not be our new world religion.

We should not be transformed in 'digital users' but we should become **'digital humanists'**, to use the beautiful expression used by Frederic KAPLAN who holds the Digital Humanities Chair at the Ecole Polytechnique Fédérale de Lausanne and who conducts research projects combining archive digitisation, information modelling and museographic design.

Frederic KAPLAN is these days directing the 'Venice Time Machine' project, a project I feel very strong about, being the Founder of the only Belgian association for Venice created seventeen years ago. I also remind you that at the Space Working Party of the Council of the EU, the Italian Delegation asked the Austrian Presidency, which agreed on it, to add protection of cultural heritage as one of the specific objectives for Copernicus. That's why I suggest to create **a 'European space data culture platform'**, bringing together space and culture stakeholders, to support European cultural actors to better define and use space data for the sake of culture in Europe and worldwide.

° **We, Europeans**, could propose this to the world because we should always remember that, etymologically, we Europeans are the sum of "eurys" (meaning wide) and of "o'ps" (meaning view), an open-minded people who has inherited from Lady Europe the ability to look at the bigger picture. Lady Europe who, riding on the back of Zeus disguised as a bull, saw what is the most difficult to

distinguish: the permanent features in the labyrinth of history; or, in other words: our culture and cultural heritage.

° Thank you for listening to my intervention and thank you for taking action, together with me.