# TERRA DATA
# LIVING WITH THE DIGITAL ERA

**From 4 April 2017 to 7 January 2018**

at the Cité des sciences et de l'industrie

**Press release**
August 2016

***"The exponential development of digital technology is rapidly and radically changing our lives.* TERRA DATA: Living With the Digital Era *examines this highly topical issue. The approach involved is totally new: the exhibition was developed with the help of the public, using a completely innovative participatory process inspired by local citizen consultation methods. Once again, the Cité des sciences et de l'industrie has drawn on its wealth of experience to continue with its mission: providing insights into major social issues."***

**Bruno Maquart, Chair of Universcience**

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**Generated by sensors that digitize the real world, the volumes of data now in circulation are growing exponentially. Processed by computer algorithms, that data has the potential to improve our decision making and enable us to better anticipate events. But do we know what data is? What forms of processing turn it into knowledge? How is it impacting on our lives and, in doing so, is it shaping a new world, a new Earth? From 4 April 2017 to 7 January 2018 at the Cité des sciences et de l'industrie, the TERRA DATA exhibition will be delving into the black box of this topical technology, for and with the public. The exhibition enjoys the scientific support of the Institut national de recherche en informatique et en automatique (French National Institute for Information Science and Automation Research - Inria).**

## A brand-new participatory approach

It was the Cité's intention to add a participatory dimension to the exhibition, whose highly contemporary, far-reaching, complex subject made it a particularly suitable case for public consultation. In partnership with the company Res publica, a group of 70 volunteers worked on the exhibition. The way in which they discussed its different aspects and asked questions about the subject demonstrated their genuine enthusiasm for the innovative experiment. The process was filmed and the video will be shown at the exhibition.

So, backed by its thirty years of experience in interactive museology based on visitor experimentation, the Cité has taken another step forward, involving the public in the preliminary stages of exhibition development. The Cité des sciences et de l'industrie produces highly original content and intends to be equally innovative in its way of doing things. Such is its vision of the role that a cultural institution should play in the 21st century.

## The exhibition

### What is data?

Today, every aspect of the world around us can be measured. Increasing numbers of computers, smartphones and other connected objects each continuously generate enormous volumes of data. This exhibition explores the tremendous diversity of this information, which is constantly increasing as new data-gathering tools are developed. Humanity now produces more data in one day than it generated from the emergence of Homo sapiens until the year 2000. Coded in byte form, this data is becoming more complex and requires greater and greater storage capacity. Naturally, it then needs to be processed fast enough to remain relevant. It is also essential to

monitor its veracity, precision and usefulness in the field of research where it is applied. The exhibition starts with an introduction by Serge Abiteboul, research director at the Inria, who provides some initial keys to understanding the issues involved, explaining why we should be interested in digital data today.

**How is data processed?**

Collecting data is not enough, it then has to be turned into usable knowledge. That is done using algorithms that cross-reference and analyse sets of data that could not be processed unaided by humans. But what is an algorithm? It is a systematic method that uses a sequence of simple actions to achieve a result. In everyday life, we often use algorithms without realising it –to tie our laces, look up a word in a dictionary or, as one Terra Data hands-on exhibit demonstrates, knot a tie! But how are algorithms described in information science? A game enables visitors to perform a classification experiment and be sorted, just as if they were information in a computer. More complex learning algorithms enable machines to create new knowledge from their input data, a technology that has many applications and is used in different techniques such as pattern recognition, which the visitor can try out.

**What impacts does data have?**

The development of digital technology is influencing a growing number of scientific fields, from neurosciences to climatology, epidemiology or astronomy. Various fields of economic activity are also impacted by the potential of data processing –for instance, insurance, intelligence, employment, agriculture and health. The effects of data on our lives and societies are very real. For example, market platforms gather data, process it and then analyse the results to offer new services. Users are no longer necessarily charged for a service: they can 'pay' with their data. So it is unsurprising that new kinds of data-analysis jobs are being created!
Aside from this technological progress that impacts on our future, data can also be used to model and better understand the past. Terra Data presents a simulation of the city of Venice and its inhabitants over 12 centuries of history, made possible by the digitisation of a very large volume of records

**Where is data leading us?**

There is so much interaction between technology and society today that technological developments have environmental, social and human impacts that go far beyond their initial aims. Smartphones, for instance, provide a range of data such as their serial number, location and social contacts, sometimes without their users' knowledge. That is clearly a concern, but such technologies can also enable us to recover an active role in digital life: the public are increasingly collecting data related to the environment, pollution and radioactivity. The increasing digitisation of our lives is affecting methods of governance and challenging social practices, and so giving rise to a digital-phenomenon culture.
The video of the public consultation carried out with Res publica is shown at the end of the itinerary. It is proof that the public, rather than being passive, can join in a debate that combines science, technology and society to gain a better grasp of tomorrow's digital world and become its informed citizens.

by universcience Paris

**Informations pratiques**

**Cité des sciences et de l'industrie**
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**Opening hours**
Everyday except Monday, 10 am to 6 pm, and until 7pm on Sunday

01 40 05 80 00
cite-sciences.fr

**Rates**
€9, reduced: €7 (over 65, "familles nombreuses" teachers, students, under 25).

Tickets include admission to the Argonaute and Planétarium.

→ Free for ages 6 and under, jobseekers, welfare beneficiaries, visitors with disabilities and their escorts.

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