

# Technological Innovations-2: Satellite Photography of Earth

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**Satellite Cameras** are extremely sophisticated and highly scientific. They can take high resolution pictures from the space. The first images from space were taken on the sub-orbital V-2 rocket flight launched by the U.S. on October 24, 1946. **Satellite imagery** consists of images of Earth or other planets collected by **satellites**. **Imaging satellites** are operated by governments and businesses around the world.



Diagram of "J-1" type stereo/panoramic constantly rotating Corona reconnaissance satellite camera system used on KH-4A missions from 1963 to 1969.

Satellite imagery has its origins in the space programs of the U.S. and the Soviet Union, pursued during the Cold War for prestige and military advantage. These programs used geostationary satellites, which are satellites that orbit over a single region of the Earth at all times, to map the world, predict the weather and spy on the military and government activities of other countries. Apollo 17 took a picture of the Earth, known as "The Blue Marble" during this period. The image of the world covered in ocean and clouds, with very little land, remains an iconic depiction of the Earth.

After the fall of the Soviet Union in the 1990s, the U.S. Congress declassified many previously restricted military and government photos and permitted private organizations

to engage in satellite imagery projects. Since then, several such organizations, both private and public, have taken up satellite imagery. Most notably, Google Maps and Google Earth use satellite imagery to depict the Earth's surface from a bird's-eye view, overlaying information on them

A series of fascinating satellite photos aims to show how man has affected Earth.



**Plaza Del Ejecutivo, Mexico City, Mexico.** Radiating streets surround the square in the Venustiano Carranza district of Mexico City (Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)

Planetary Collective: <http://www.planetarycollective.com/>  
Overview Microsite: <http://www.overviewthemovie.com/>  
Human Suits (original score): <http://www.humansuits.com/>  
For more information:  
The Overview Institute: <http://www.overviewinstitute.org/>  
Fragile Oasis: <http://www.fragileoasis.org/>

From the Earth's surface, it is almost impossible to fully appreciate the splendor and intricacy of the things we have constructed, the sheer complexity of the systems we have developed, or the devastating impact that we have had on our planet. But these impacts are clearly seen from the perspective of space.



**Gemasolar solar power plant in Seville, Spain.** The solar concentrator uses 2,650 heliostat mirrors to collect and focus the sun's thermal energy to heat molten salt flowing through a 460ft tall central tower. The molten salt then circulates from the tower to a storage tank where it is used to produce steam and generate electricity. In total, the facility displaces approximately 30,000 tonnes of CO<sub>2</sub> emissions every year (Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**Tulip fields in Lisse, the Netherlands.** The flowers are in peak bloom in April of each year(Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**Southern California Logistics Airport in Victorville, California**, a massive transitional hub for commercial aircraft. The facility's boneyard, pictured here, contains more than 150 retired planes (Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)

The site's owners say they hope viewers will be fascinated by photos of the Earth from this perspective but they also hope people will go beyond the aesthetics to contemplate what they are seeing and consider what that means for our planet.

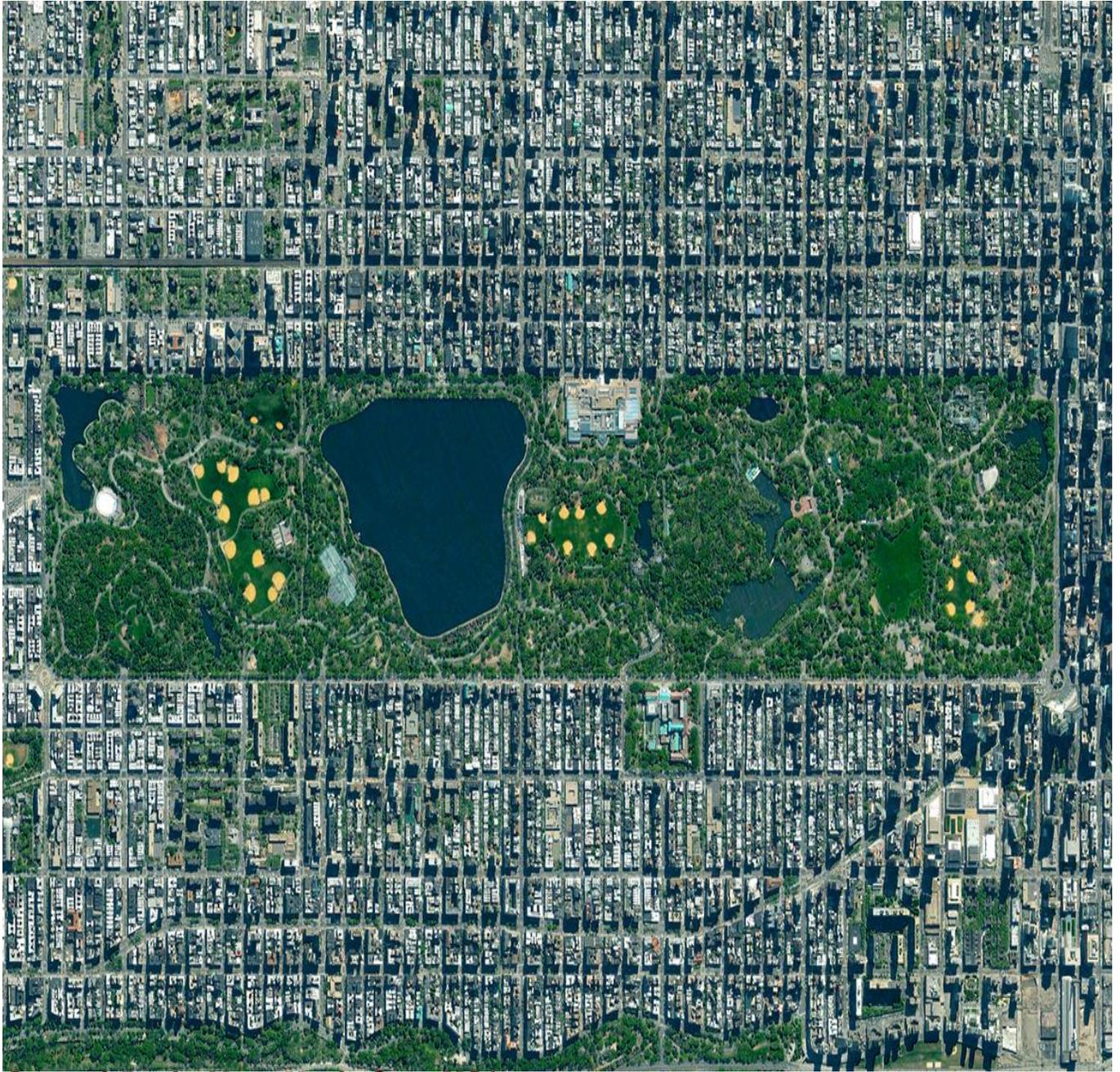
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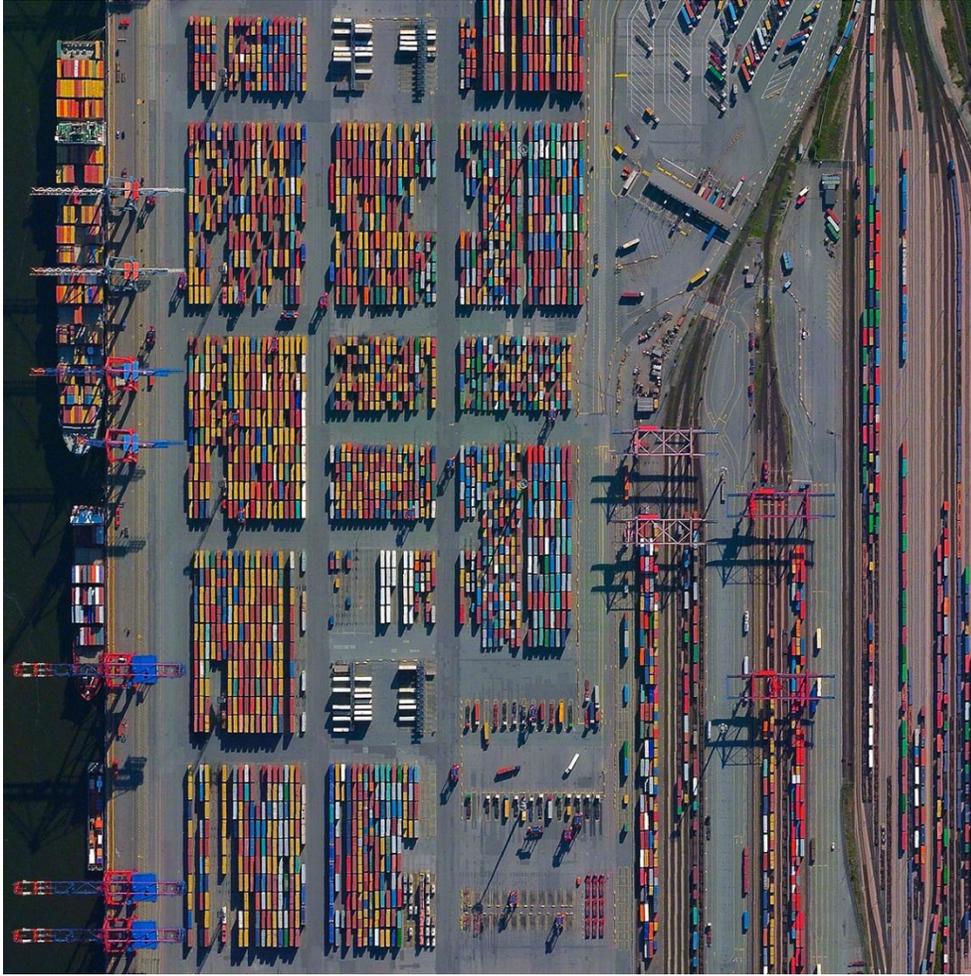
**Venice, Italy** is situated upon 118 small islands that are separated by canals and linked by bridges. With tide waters expected to rise to perilous levels in the coming decades, the city has constructed 78 giant steel gates across the three inlets through which water from the Adriatic could surge into Venice's lagoon. The panels – which weigh 300 tonnes and are 92ft wide and 65ft high – are fixed to massive concrete bases dug into the seabed(Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**The Nardò Ring, near the town of Nardò, in Apulia, Italy.** A high speed, 7.8 mile long, circular test track. Each of the ring's four lanes has a determined 'neutral speed' and is banked in such a manner that one can drive as if the road were straight(Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**Central Park, New York City, USA.** The park spans 843 acres – that's 6% of the island of Manhattan (Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)

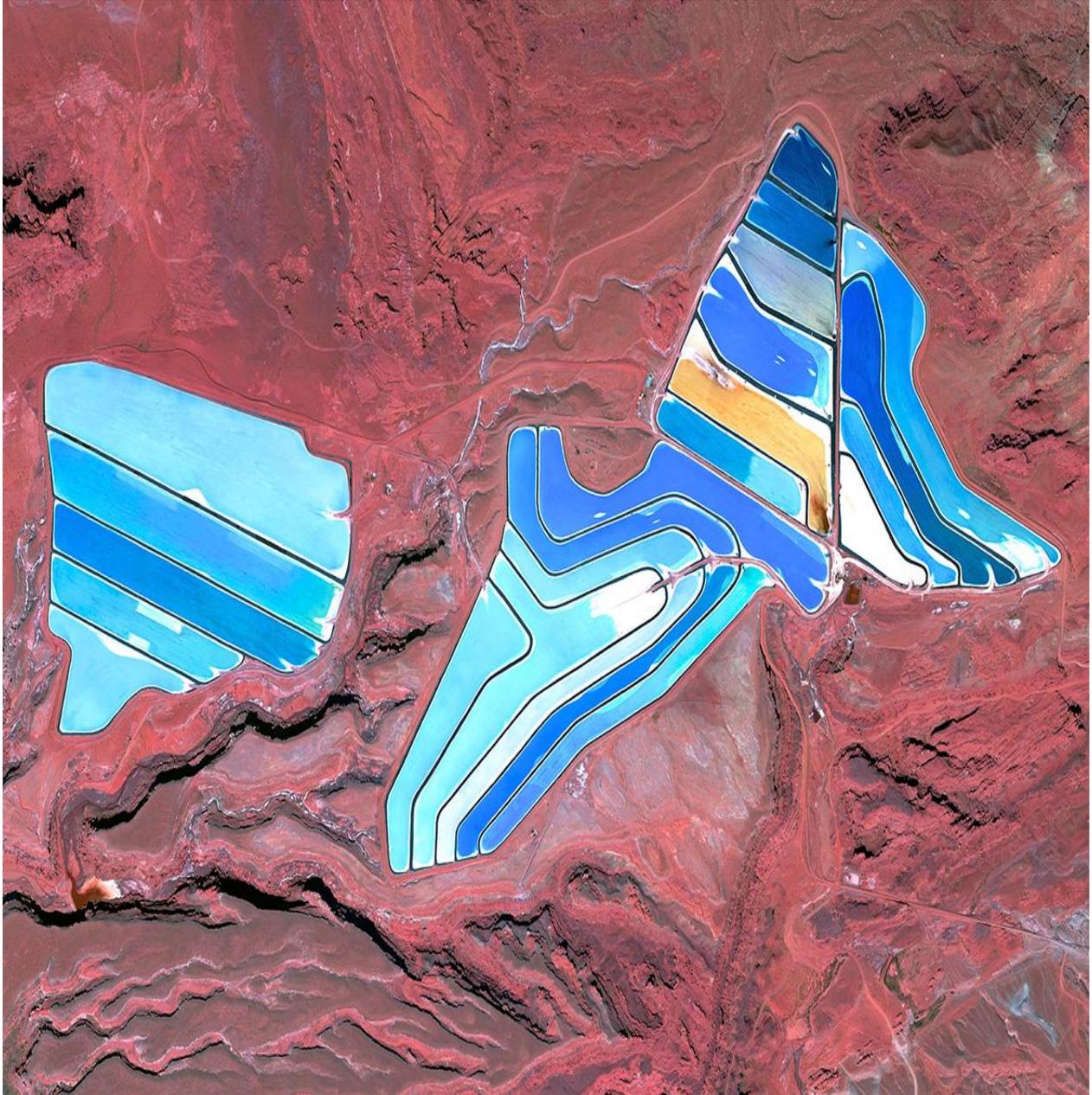


**The Port of Hamburg, Germany.** Known as Germany's Gateway to the World, the huge port is located on the Elbe River. On an average day, the facility is accessed by 28 ships, 200 freight

trains and 5,000 trucks. In total, the port moves 132.3 million tons of



**An Olive tree plantation covering the hills of Córdoba, Spain.** Approximately 90% of all harvested olives are turned in to oil, while the 10% are eaten as table olives (Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



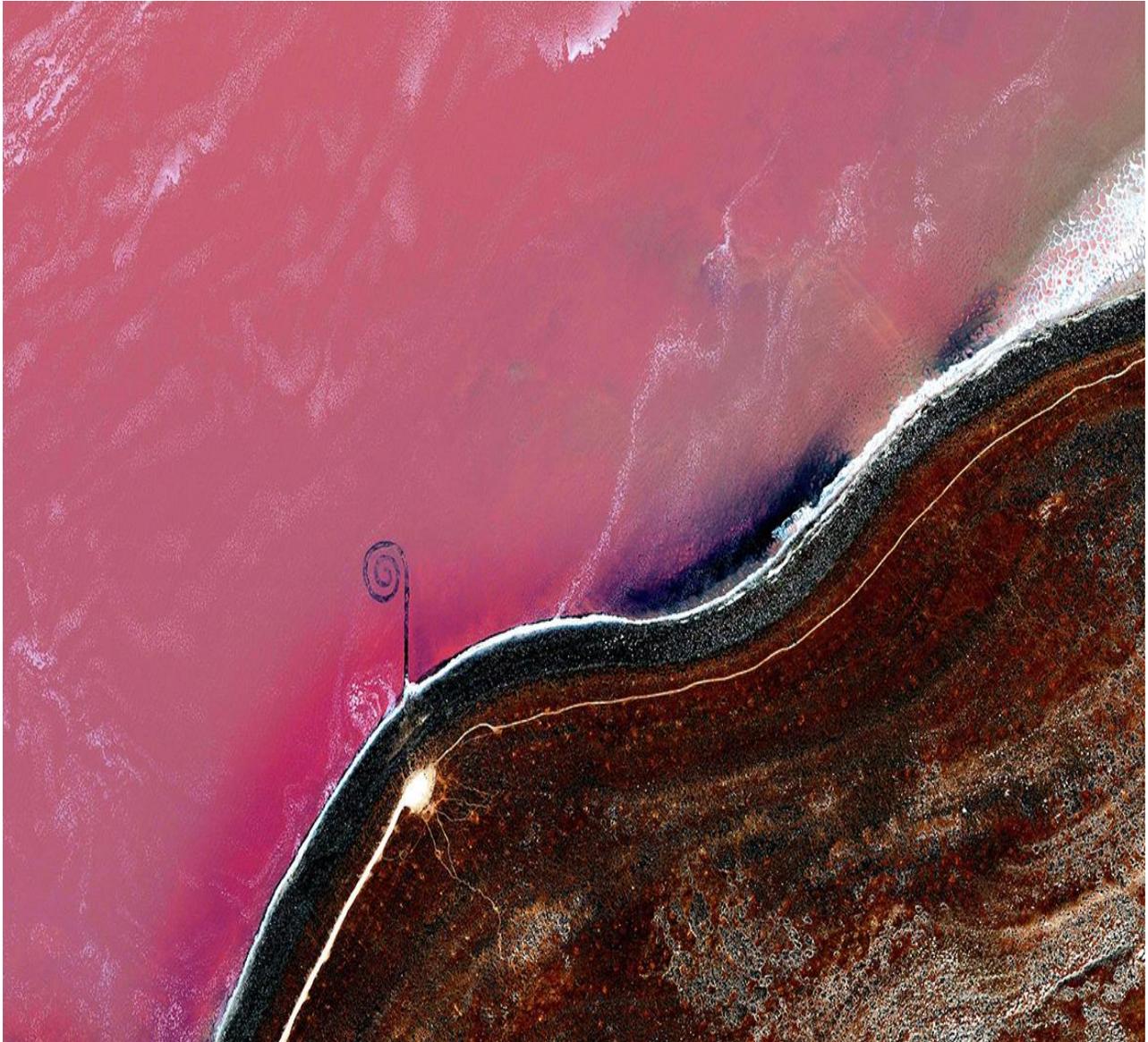
**The Intrepid Potash Mine in Moab, Utah, USA.** This mine produces muriate of potash, a potassium-containing salt used in fertiliser. The salt is pumped to the surface from underground deposits and dried in massive solar ponds that extend across the landscape. As the water evaporates over the course of 300 days, the salts crystallise out. The water is dyed bright blue to reduce the amount of time it takes for the potash to crystallise; darker water absorbs more sunlight and heat (Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**The star-shaped fort of Bourtange, the Netherlands.** This town was constructed in 1593 in this manner so that an attack on any of its five walls could be aggressively counteracted from the two adjacent points of the star.(Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**The Great Pyramids of Giza, on the outskirts of Cairo, Egypt.** Dating back to 2580 BC, the Great Pyramid, the largest structure at the site, is the oldest of the seven wonders of the ancient world and the only one to remain largely intact. With an estimated 2,300,000 stone blocks weighing from two to 30 tonnes each, the 481ft pyramid was the tallest structure in the world for more than 3,800 years(Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**Spiral Jetty, Rozel Point, Great Salt Lake, Utah, USA.** An earthwork sculpture by Robert Smithson, consisting of a 1,500ft-long (460m), 15ft-wide anti-clockwise coil jutting from the north-eastern shore of the Great Salt Lake. Smithson reportedly chose this site because of the vibrant colours of the water (salt-tolerant bacteria and algae thrive here in 27% salinity) and its connection with the primordial sea. The water level of the lake varies, revealing the jetty only in times of drought(Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



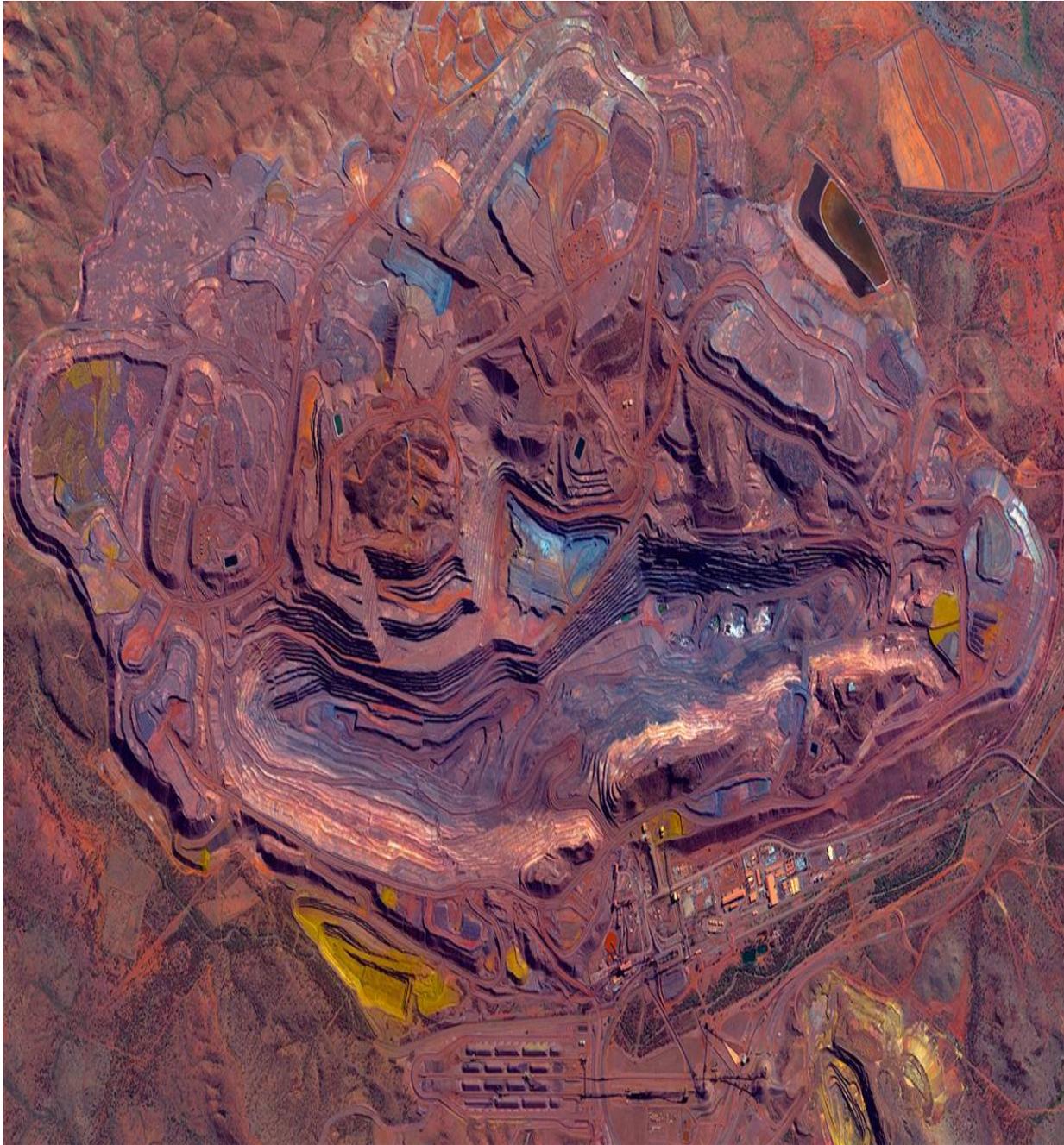
**Amsterdam, the Netherlands.** The layout of the city's canal system is the result of conscious urban planning. In the early 17th century, when immigration was at a peak, a comprehensive plan for the city's expansion was developed with four concentric half-circles of canals emerging at the main waterfront. In the centuries since, the canals have been used for defense, water management, and transport(Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**An aluminum plant in Darrow, Louisiana, USA.** Toxic waste gathers in a collection pond. Approximately 77 million tons of red mud, also known as red sludge, is generated every year due to the industrial production of aluminum around the world. This particular pond extends for more than one mile along its base(Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



Fruit trees swirl in an orchard on the hills around Huelva, Andalusia, Spain (Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**Mount Whaleback Iron Ore Mine in the Pilbara region of Western Australia.** The biggest single-pit open-pit iron ore mine in the world, the mine is 1.5 kilometers wide and more than 5km long(Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**The Stelvio Pass in northern Italy, near the Swiss border.** This is the highest paved roadway in the Eastern Alps, with an elevation of 2,757m (9,045ft) above sea level. Only accessible in the summer months, the road and its 75 hairpin turns are sometimes scaled during the famous Girod'Italia cycling race(Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**Roseville Yard, north of Sacramento, California**, the largest rail facility on the west coast of the United States. Operated by the Union Pacific Railroad, the yard accommodates approximately 98% of all rail traffic in the north of the state (Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



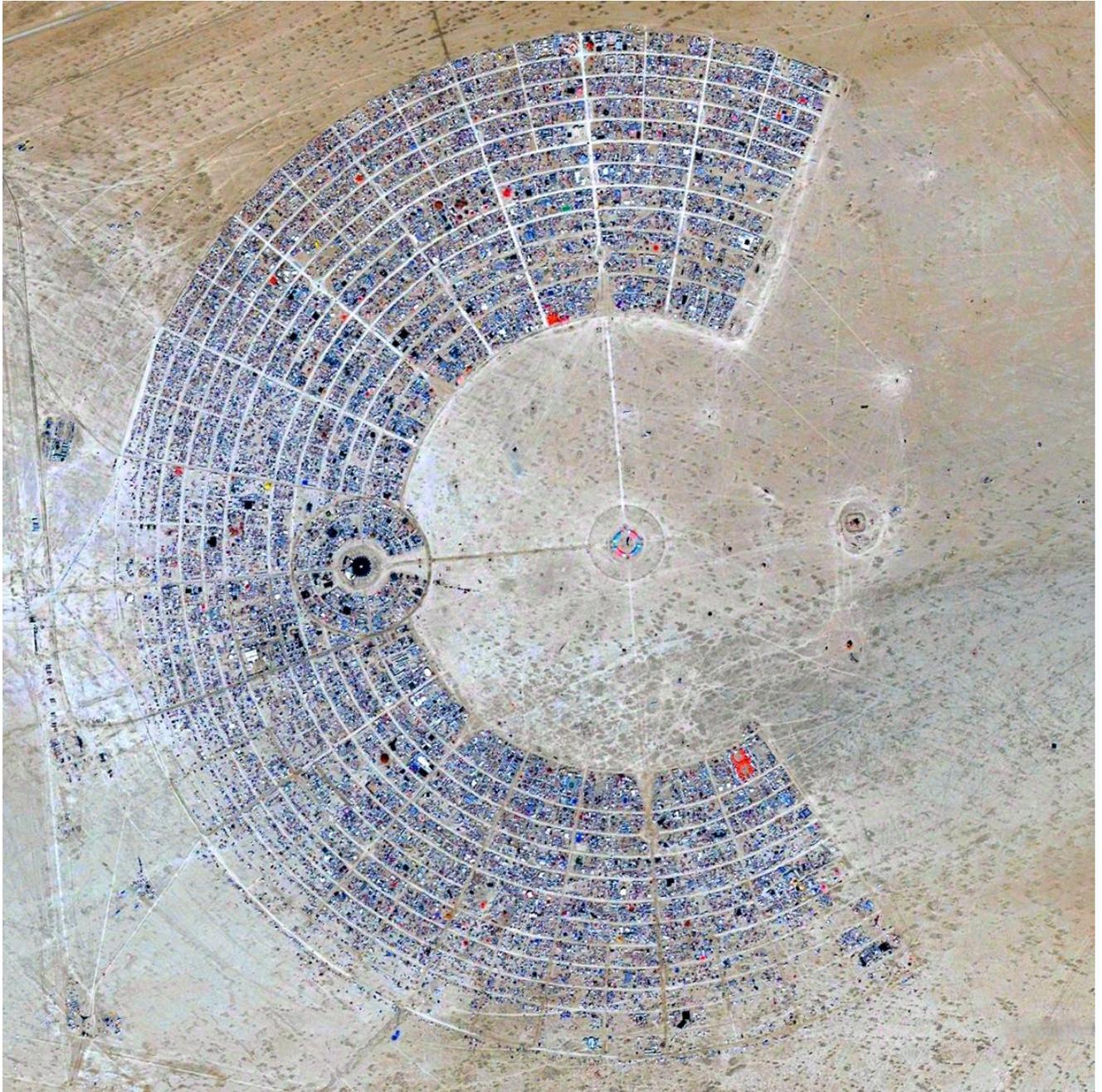
**Het Loo Palace, Apeldoorn, the Netherlands.** The Great Garden, situated behind the residence, follows the general Baroque landscape design formula: perfect symmetry, axial layout with radiating gravel walks and parterres with fountains, basins, and statues (Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**Plastic greenhouses, Almeria, Spain.** Polytunnels and plastic greenhouses cover approximately 20,000 hectares of land (more than 75 square miles) in Almeria. This view shows roughly six square miles. The use of plastic covering – known as plastic culture – is designed to increase produce yield, increase produce size, and shorten growth time (Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**Glastonbury Festival in Pilton, Somerset, England.** The five-day music event is attended by more than 135,000 people every year. The population of Pilton on the other 360 days of the year is 998(Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**Burning Man festival in the Black Rock Desert of Nevada, USA.** Drawing more than 65,000 participants in 2014, the week-long, annual event is described as an experiment in community, art, radical self-expression and radical self-reliance. The developed part of Black Rock City, the temporary residence of the campers, is arranged as a series of concentric streets with the "Man Sculpture" and his supporting complex at the centre (Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**Brasilia, Brazil.** The city was founded on 21 April 1960 in order to move the capital from Rio de Janeiro to a more central location within Brazil. The design, resembling an airplane from above, was developed by Lúcio Costa and prominently features the modernist buildings of the celebrated architect Oscar Niemeyer at its center (Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**Example, Barcelona, Spain.** This district is characterized by its strict grid pattern with octagonal intersections and apartments with communal courtyards (Daily Overview/Satellite images (c) 2015, Digital Globe, Inc)



**Arc de Triomphe, Paris, France.** The structure, which was commissioned in 1806 after Napoleon's victory at Austerlitz during the peak of his fortunes, is located at the center of twelve radiating avenues. Because of numerous delays, including the abdication of Napoleon, construction of the monument took nearly 30 years to complete (Daily Overview/Satellite)

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Best Regards.

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