Piql Preservation Services

Long Term (data) Preservation – LTP

Piql Slovakia

Ljubljana | 07.05.2019

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Piql Slovakia (FilmStor s.r.o.)

- ✓ Certified franchise partner for Piql AS
- ✓ Area of SR, CR, HU, AT and CEE
- ✓ HQ in Bratislava, Slovakia
- ✓ Production facility in Žilina, Slovakia

PIQL AS

- ✓ Norwegian company founded in 2002
- ✓ Patented Piql technology
- ✓ R&D from EU and NR funds (more than 32mil. €)
- ✓ More than 20 technological partners
- ✓ Worldwide service offerings through partners

HW / SW / Human error

Apollo 11 missing tapes

From Wikipedia, the free encyclopedia

The **Apollo 11 missing tapes** were those that were recorded from Apollo 11's slow-scan television (SSTV) telecast in its raw format on telemetry data tape at the time of the first Moon landing in 1969 and subsequently lost. The data tapes were recorded as a backup in case the live television broadcasts failed for any reason.

To broadcast the SSTV transmission on standard television, NASA ground receiving stations performed real-time scan conversion to the NTSC television format. The moonwalk's converted video signal was broadcast live around the world on July 21, 1969 (2:56 UTC). At the time, the NTSC broadcast was recorded on many videotapes and kinescope films. Many of these low-quality recordings remain intact. The SSTV signal was recorded on telemetry data tapes as a backup in the event that real-time conversion and broadcast failed. As the real-time broadcast worked and was widely recorded, preservation of the backup video was not deemed a priority in the years immediately following the mission.[1] In the early 1980s, NASA's Landsat program was facing a severe data tape shortage and it is likely the tapes were erased and reused at this time.[2]

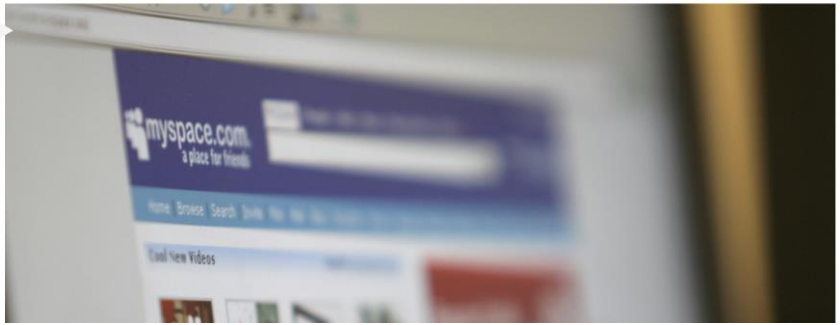
A team of retired NASA employees and contractors tried to find the tapes in the early 2000s but was unable to do so. The search was sparked when several still photographs appeared in the late 1990s that showed the visually superior raw SSTV transmission on ground-station monitors. The research team conducted a multi-year investigation in the hopes of finding the most pristine and detailed video images of the moonwalk. If copies of the original SSTV format tapes were to be found, more modern digital technology could make a higher-quality conversion, yielding better images than those originally seen. The researchers concluded that the tapes containing the raw unprocessed Apollo 11 SSTV signal were erased and reused by NASA in the early 1980s, following standard procedure at the time.[3][1][4]

Although the researchers never found the telemetry tapes, they did discover the best visual quality NTSC videotapes as well as Super 8 movie film taken of a video monitor in Australia, showing the SSTV transmission before it was converted. These visual elements were processed in 2009, as part of a NASA-approved restoration project of the first moonwalk. At a 2009 news conference in Washington, D.C., the research team released its findings regarding the tapes' disappearance. They also partially released newly enhanced footage obtained during the search. Lowry Digital completed the full moonwalk restoration project in late 2009.

MySpace lost 12 years of music and photos, leaving a sizable gap in social network history

Share on Facebook | Share on Twitter | +

WHAT'S THIS?



Did you know?

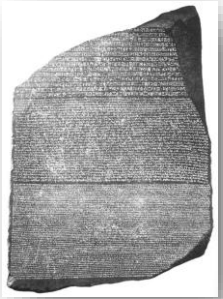
In the next 20 years, around 80% of all digital scientific data will be lost due to obsolete storage medium

Source: Current Biology, December 2013

“Unplugged” storage mediums

Cave paintings

Rosetta Stone



Papyrus

Paper

Analogue Film

We‘ve digitised film material

„Bits on film“ technology

Digital data as „QR codes“ in high resolution

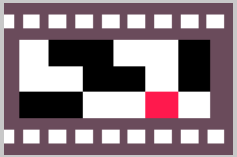
- Binary data files are tranformed into 2D „QR“ codes
- We print these codes onto multi-layer film medium

Open source platform for data retrieval

- Open source capture of the film
- Open source decoding software
- Source codes for file formats and software are written on each film

Data

Binary codes



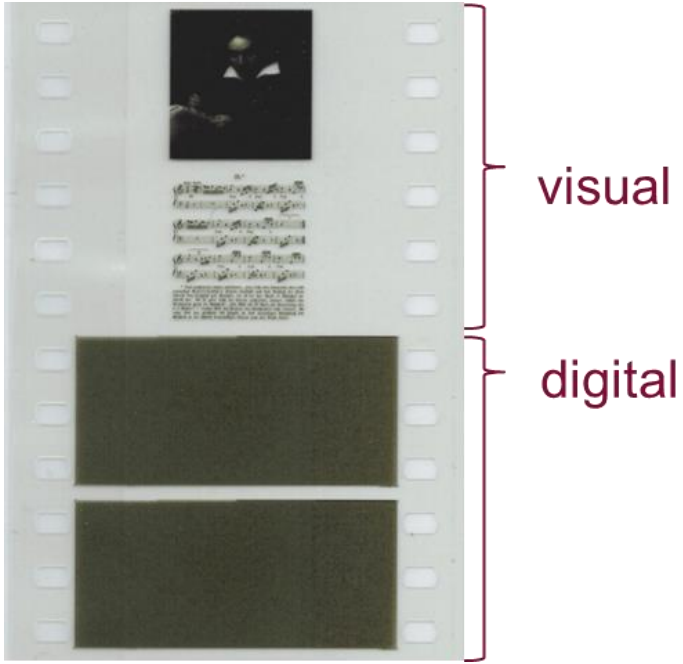
Bits-on-Film

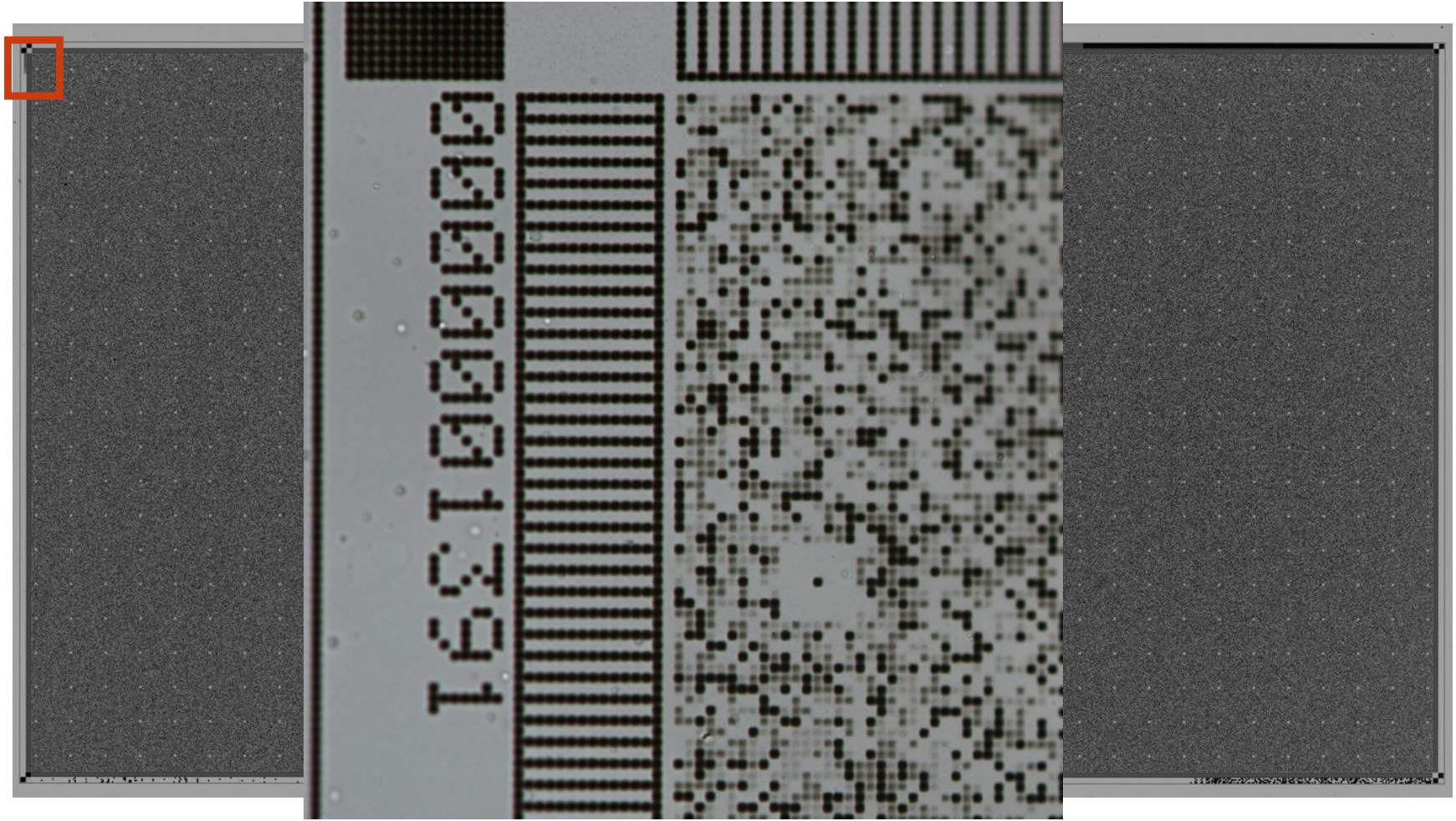
Lifting film into the digital era

- **Digital** preservation
  We preserve digital data as binary codes, i.e. writing the bit stream as pixels

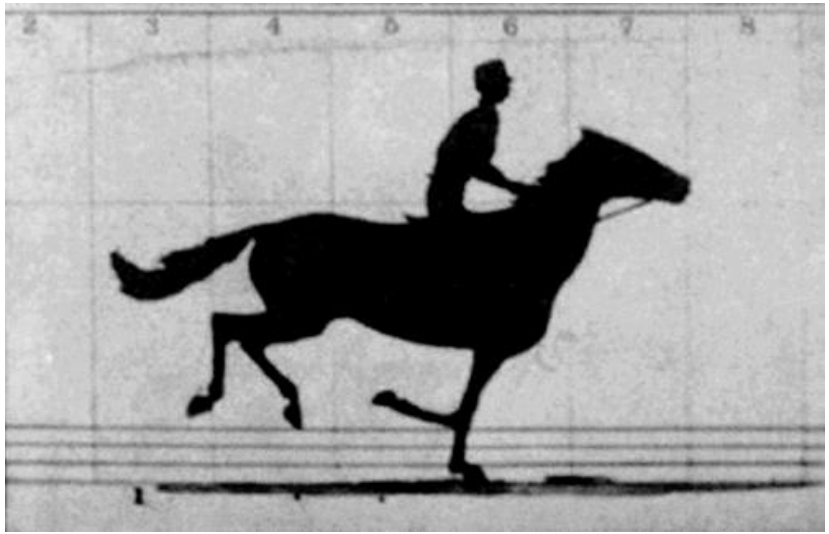
- **Visual** preservation
  We preserve digital data as as human readable text or images

- **Hybrid** preservation
  A combination of the two, with visual previews of digital preservation





Why film? Because it is the only suitable medium...



1878:

First recorded film

«The horse in motion»

Piql secures sensitive data and ensures future access

Ultra-secure data storage

Unalterable
By using a true WORM* medium, we make it impossible to modify or delete.
* WORM = Write Once Read Many

Secure
We safeguard your data from cyberattacks, logical threats, EMP and physical threats.

Common

Flexible
We can store data both in digital and visual format.

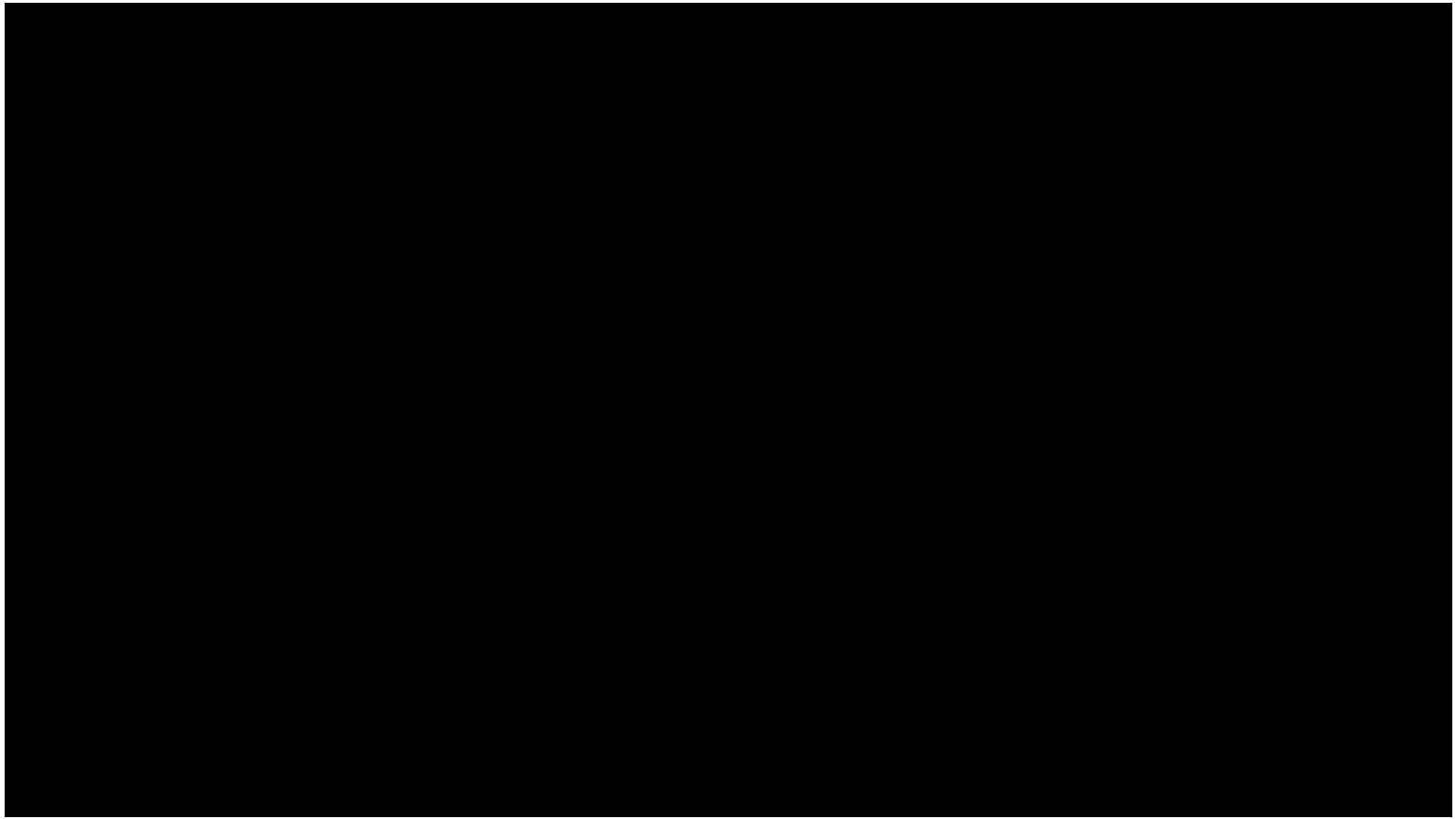
Searchable
Your data is fully searchable, so you will always find what you need.

Long-term digital preservation

Migration-free:
Avoid the risk of data loss, save time and get a predictable long-term cost.

Future-proof
Data retrieval is possible independent of technological obsolescence.

Permanent
Our film and box are tested to keep your data for 500 years.



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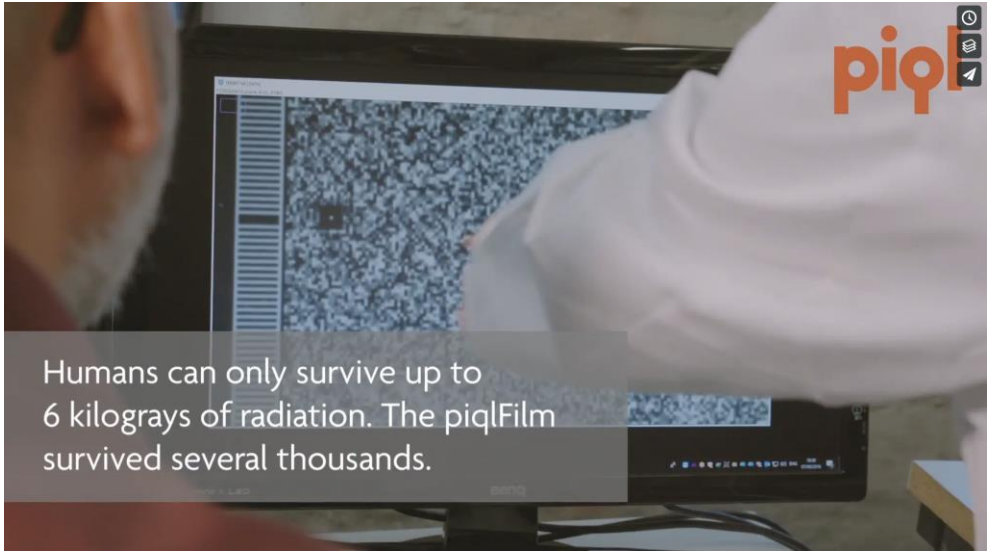
Real World Tests

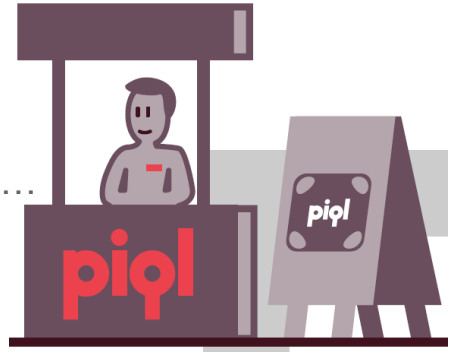


https://vimeo.com/293504511

https://www.pcrevue.sk/a/Video--Zahrali-sme-sa-na-archeologov-buducnosti-a-citali-udaje-z-filmu-archivneho-systemu-Piql

"Piql offers holistic approach to data preservation, providing
self-explanatory way of securing access to digital data in future“

Possible implementations



- ✓ Public institutions - ministries, social security, archives...
- ✓ Financial institutions – banks, trade companies, stock market…
- ✓ Security – army, police, emergency services...
- ✓ Paper archives – digitalisation and long term storage
- ✓ Energy distribution – archives of RTG welds, photo documentation, technical documentation
- ✓ Private companies – archives, valuable information, production procedures, patents, blueprints...
- ✓ Private persons
- ✓ And more...

Long – term
#migration

Long – term
#migration

Long – term
#migration

Ultra – secure
#security

Security challenge


Ultra – secure
#security
Long – term
#migration

References


rtv:
ROZHLAS A TELEVÍZIA SLOVENSKA


SHMÚ
Slovenský hydrometeorologický ústav


SLOVENSKÝ
FILMOVÝ ÚSTAV
SLOVAK FILM
INSTITUTE


Slovenská elektrizačná
SEPS
prenosová sústava, a. s.


Jančina
ARCHITEKTI


BUBO


SLOVENSKÁ
SPORITEĽŇA


ČESKÝ ROZHLAS
CZECH RADIO


NATIONAL SZÉCHÉNYI LIBRARY


BIBLIOTECA APOSTOLICA VATICANA


TATA


SIEMENS


RAG

RAG.AUSTRIA.ENERGIE


DETRO
DEPARTAMENTO DE TRANSPORTES RODOVIÁRIOS
DO ESTADO DO RIO DE JANEIRO


BHF BANK
PRIVAT SEIT 1854


AGN
ARCHIVO
GENERAL
de la
NACIÓN
México


ARKIVVERKET


CBF
BRASIL


DATAPREV


KDRS
Kommunearkivinstitusjonenes
Digitale RessursSenter


Diputació
Barcelona


Navantia


UNESCO


ARQUIVO NACIONAL

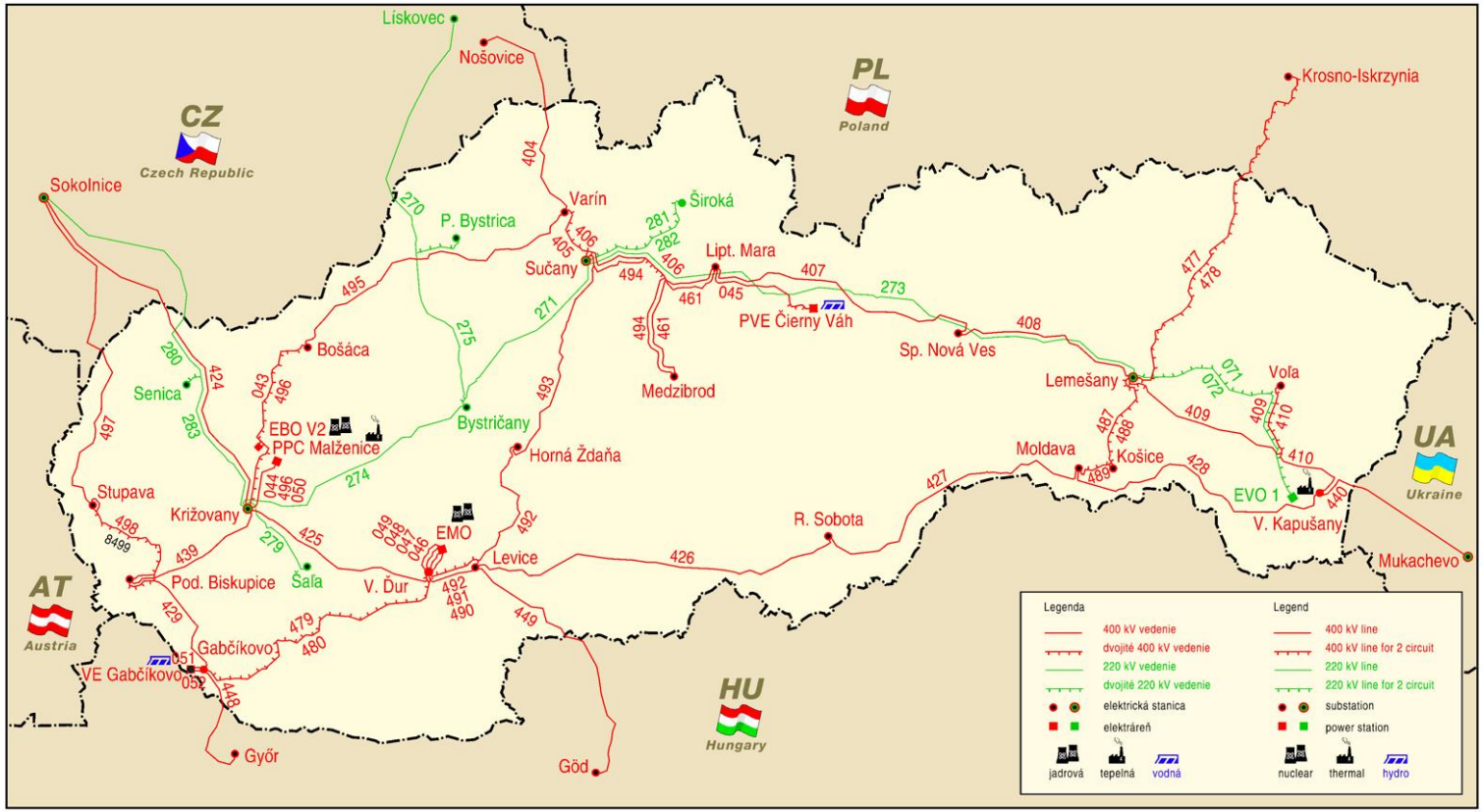

NASJONALMUSEET


MAC
BA
MUSEU
D'ART CONTEMPORANI
DE BARCELONA


NATIONAL ARCHIVES

Slovenská elektrizačná prenosová sústava, a.s.

Mapa Prenosovej sústavy Slovenskej republiky
Map of Power System of The Slovak Republic



Stav ku dňu: 31. 12. 2018
Vyhotovil: Odbor sieťových výpočtov,
SEPS
Technická spolupráca: stéra, a.s.

Slovenská elektrizačná prenosová sústava, a.s.
Mlynské nivy 59/A
824 84 Bratislava 26
www.sepsas.sk

SEPS (Slovak Electric Grid Company)

Uncategorised [6896 files (100%) / 13,26GB (100%)]			
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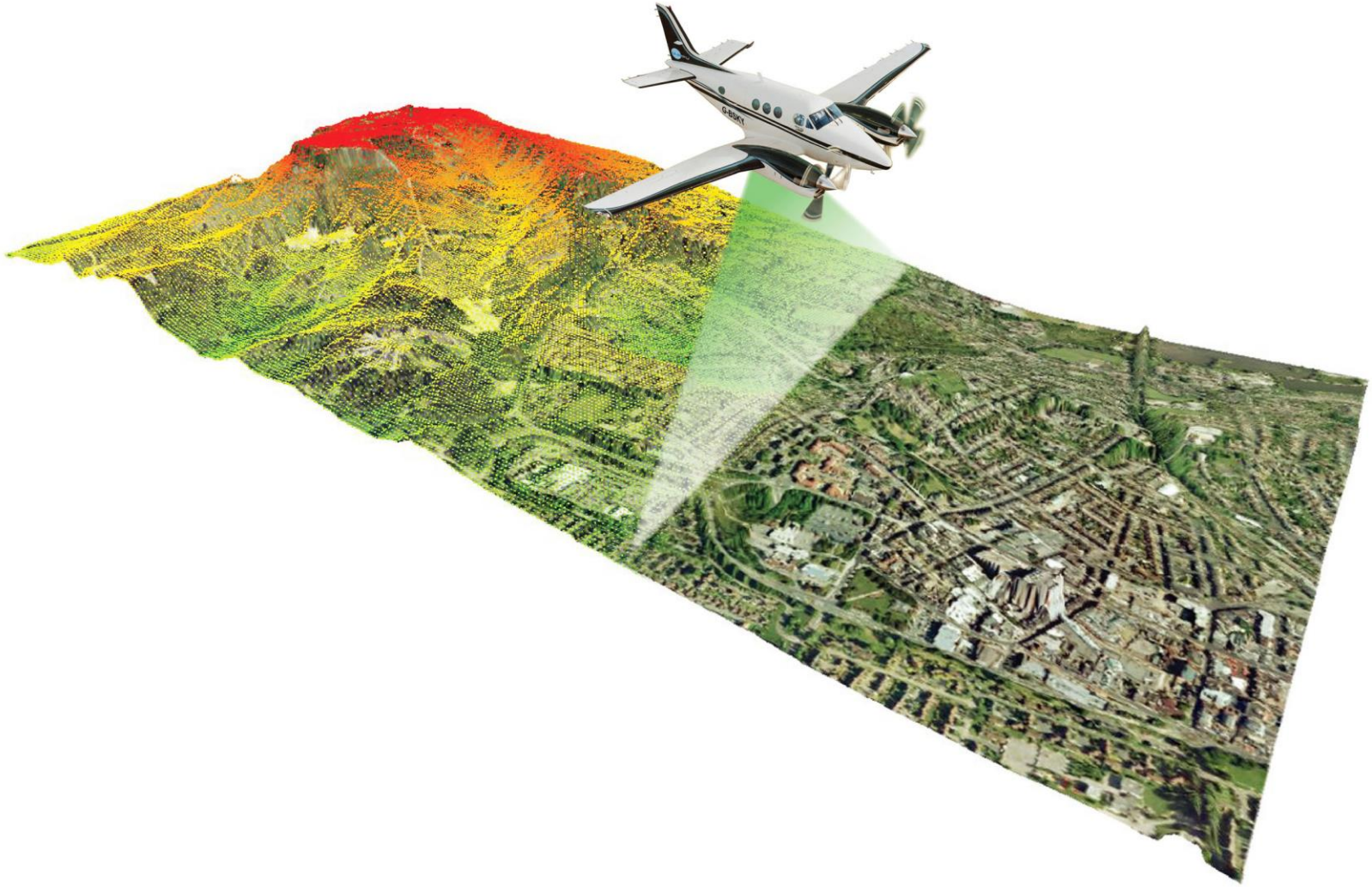

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Arctic
World
Archive


Safest place?
© 2009 GeoBasis-DE/BKG
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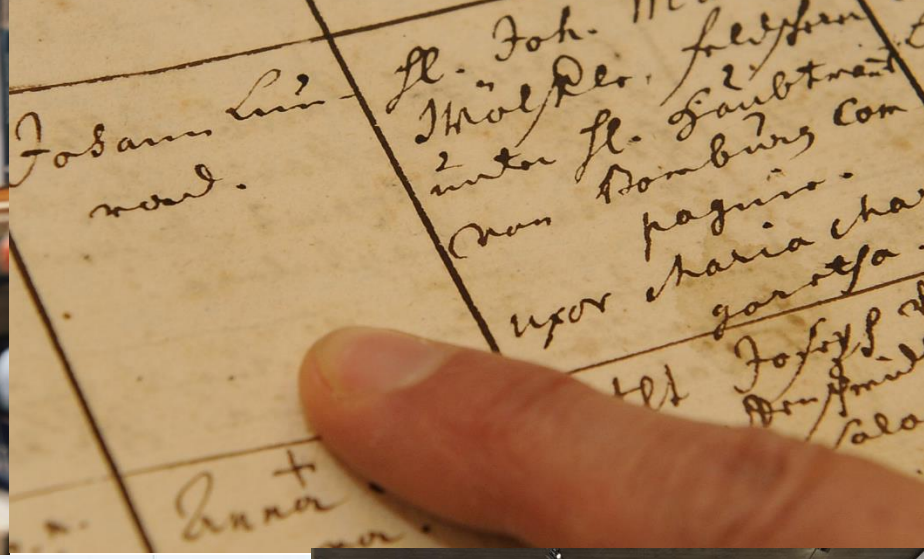
Image Landsat
Google earth



Q & A

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