

An aerial night photograph of a town situated on a peninsula or near a large lake. The town's lights are glowing, and the surrounding landscape is dark with some greenery. The sky is a deep blue.

OPPIMISEN 4. VALLANKUMOUS

KATI TIAINEN
DIRECTOR EMEA

MICROSOFT EDUCATION



@KATI.TIAINEN



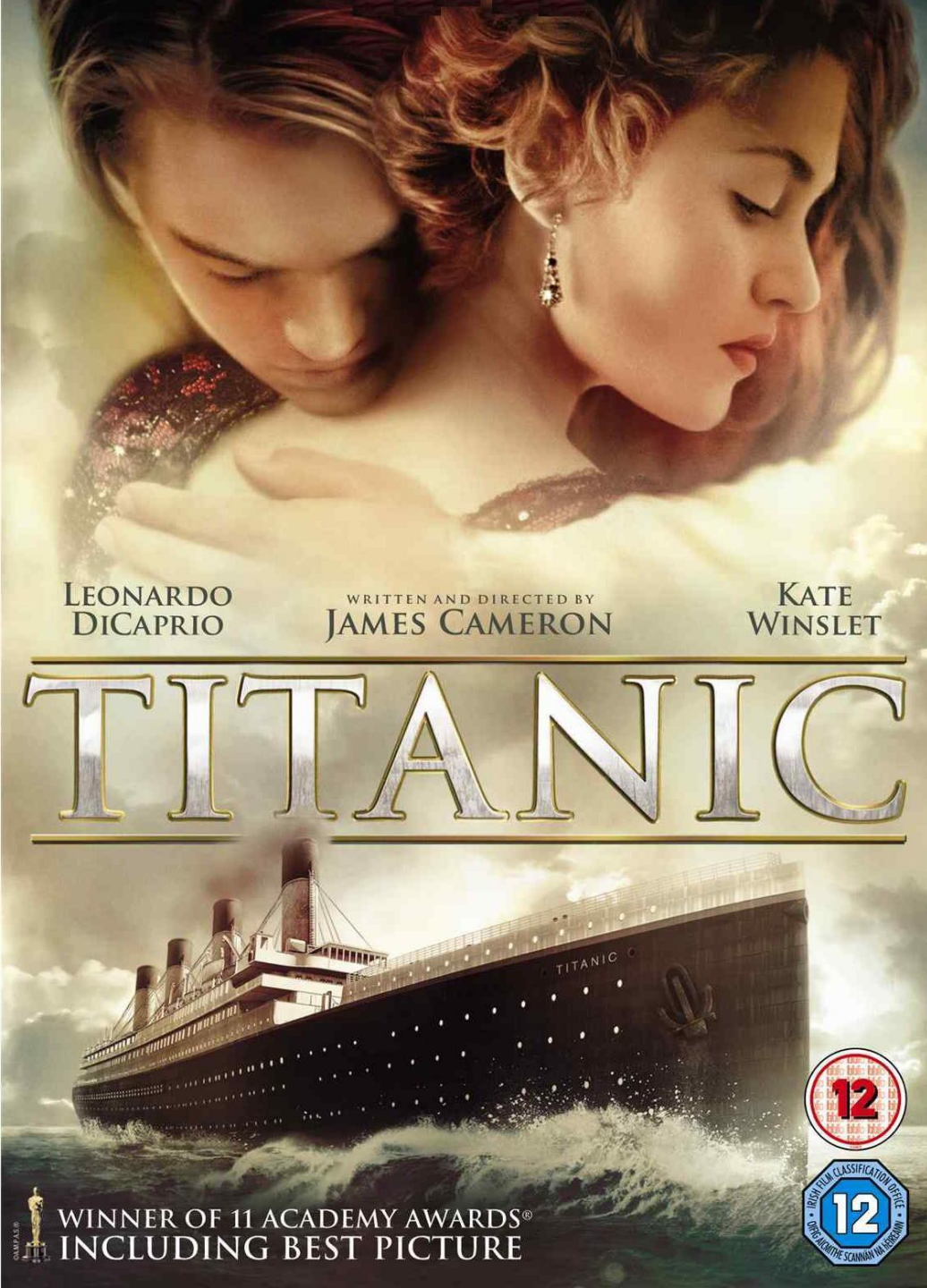
UNDERSTANDING
TODAY



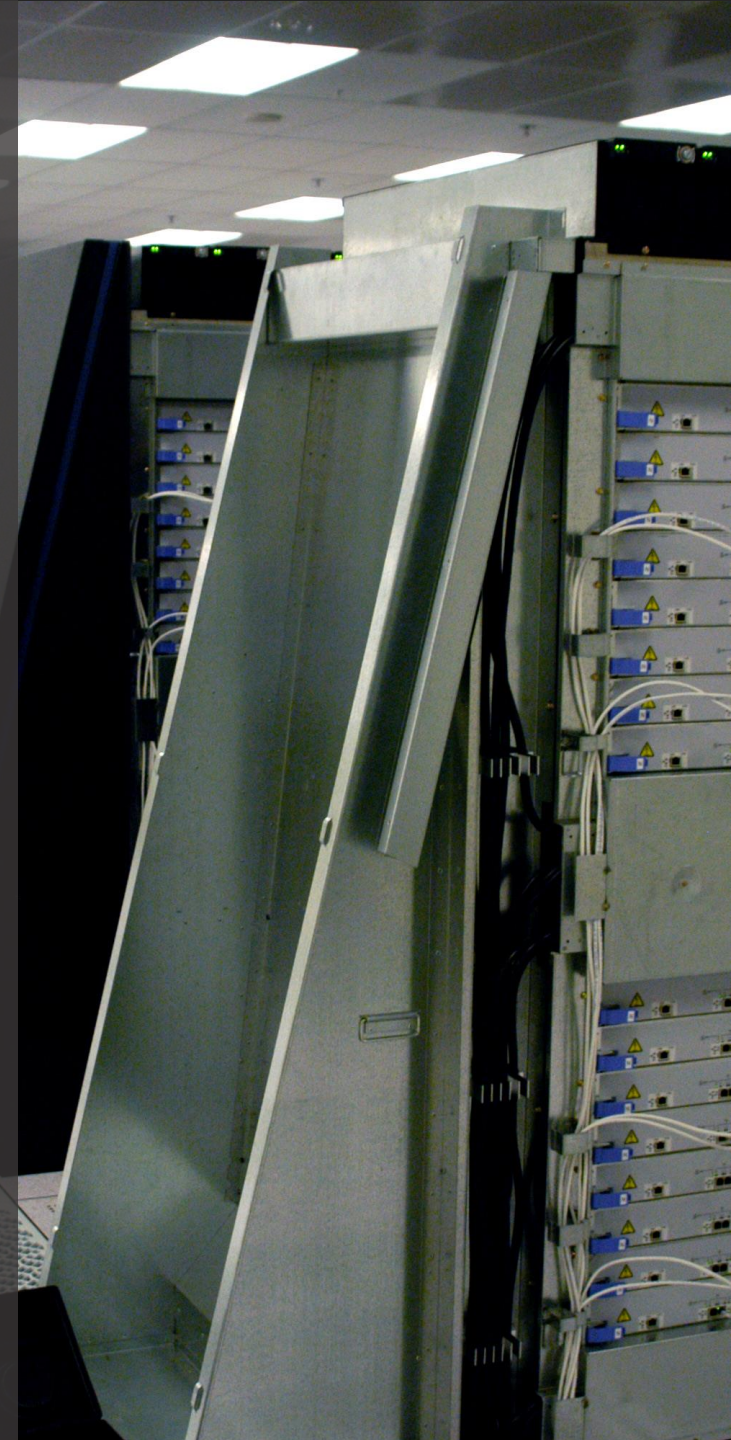
THE WORLD HAS CHANGED



"...a computer on every desk and in every home"
- Bill Gates



1 TERRAFLOP
\$69,000,000.00





6
~~1~~ TERRAFLOPS
~~\$69,000,000.00~~
\$699





1780s

Steam, water,
mechanical production
equipment

1870s

Division of labor,
electricity, mass
production

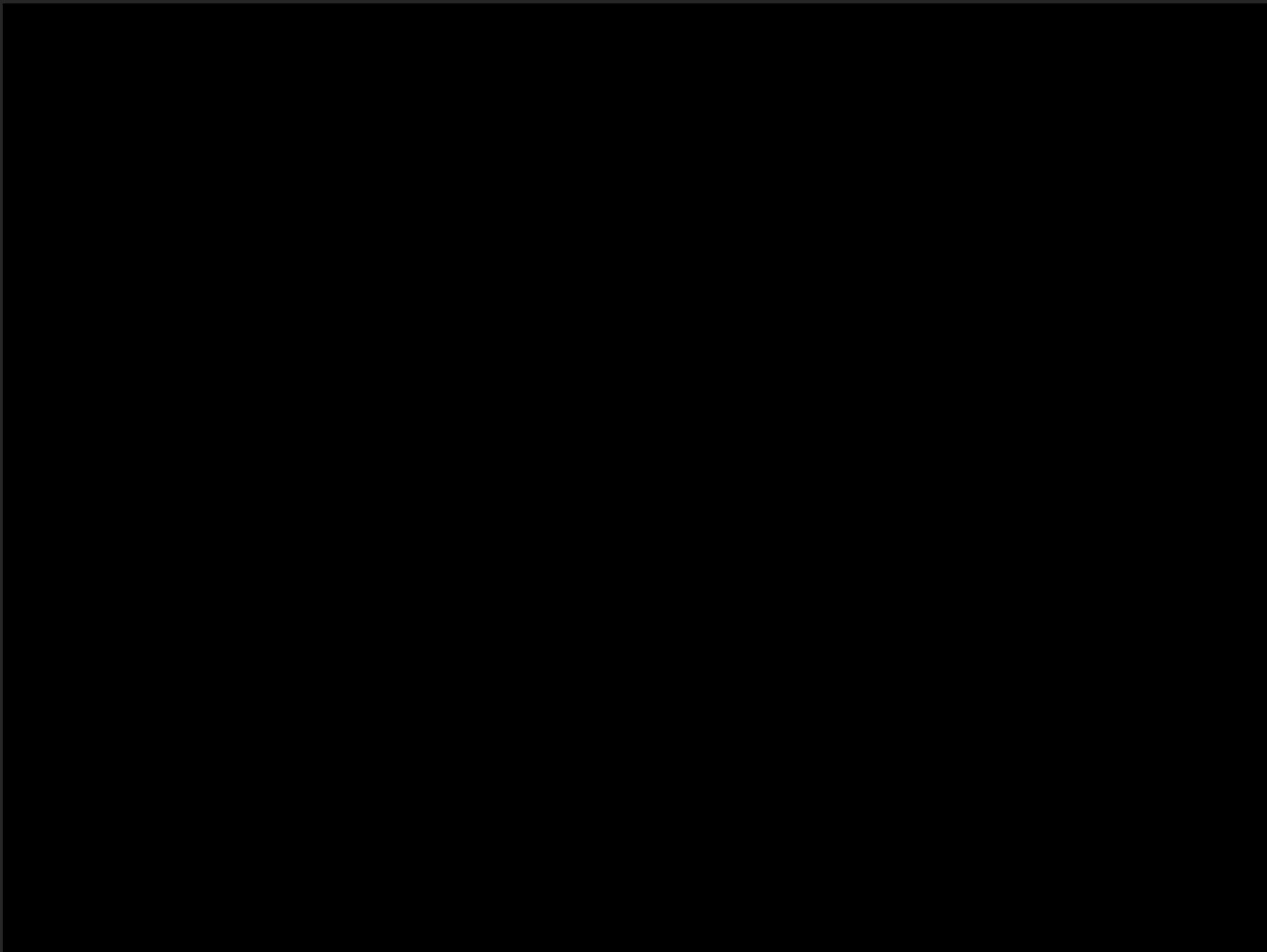
1970s

Electronics, IT, The
Internet, Automated
production

2016

Blurring the physical
and digital divide

4TH INDUSTRIAL REVOLUTION



TECHNOLOGY TIPPING POINTS BY 2025



30% of corporate audits will be performed by AI



10% of all cars on US roads will be driverless



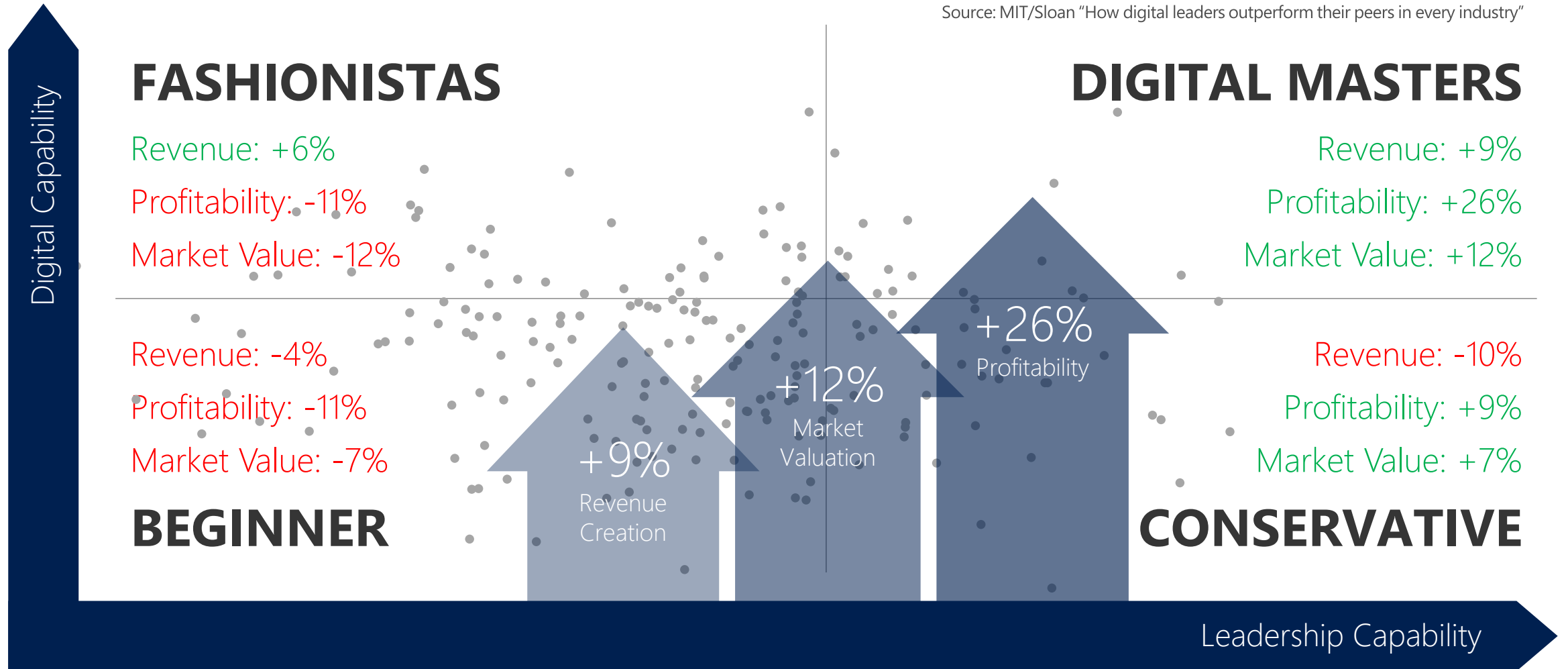
First government tax collected via a blockchain

DIGITAL ERA TRANSFORMATION



Digital Masters perform better

Source: MIT/Sloan "How digital leaders outperform their peers in every industry"



“Ensimmäinen
teollinen
vallankumous
demokratisoi
kulutuksen...

digitaalinen
vallankumous
demokratisoi
tuotannon”

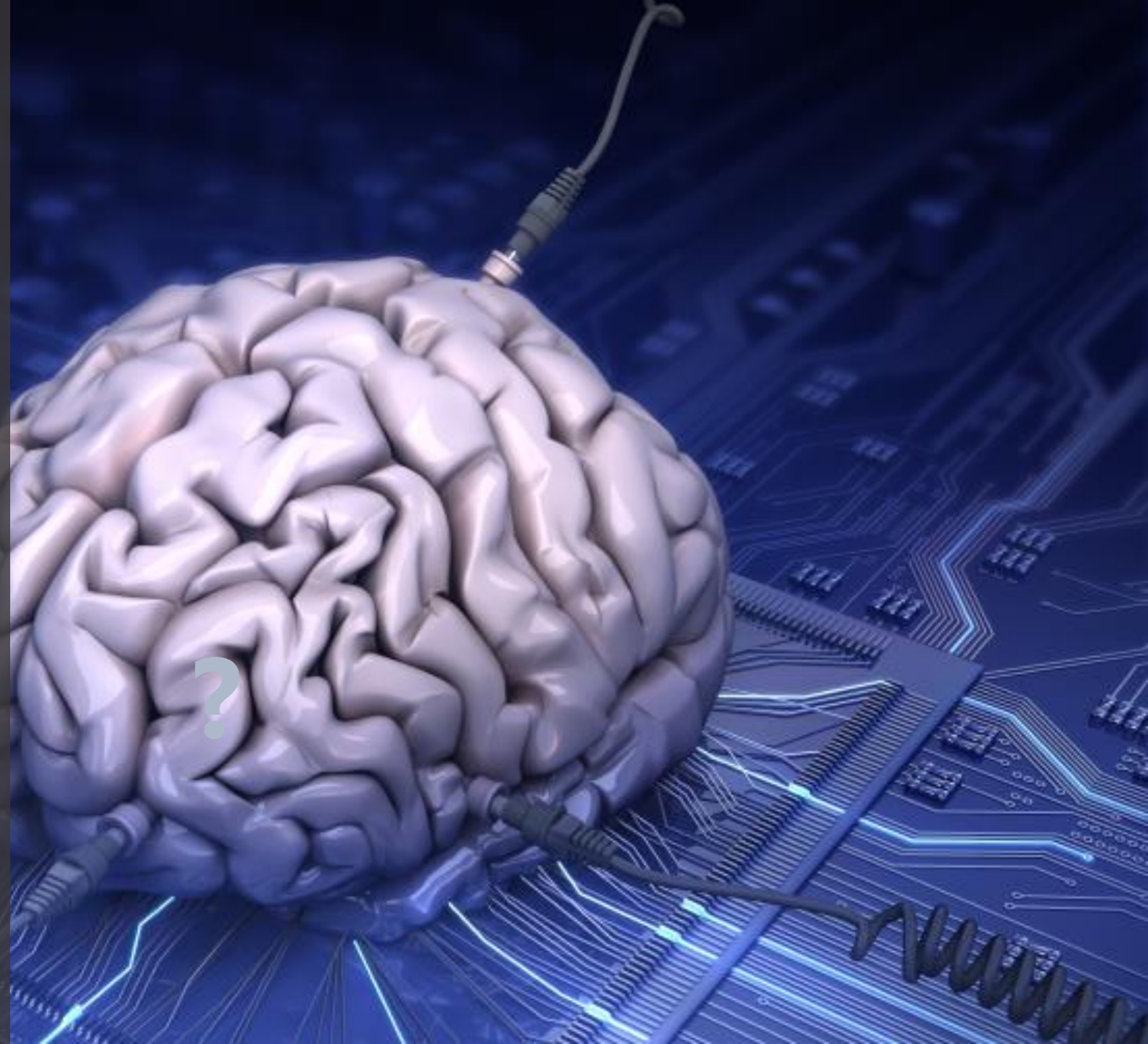
A black and white portrait of Esko Kilpi, a middle-aged man with short, light-colored hair, wearing glasses and a dark suit jacket over a light-colored shirt. He is looking directly at the camera with a neutral expression. The background is dark and out of focus.

- Esko Kilpi





MACHINES OR HUMANS?



“Teknologia
on ollut aina
osa ihmisen
luovaa
ongelman-
ratkaisua”



- Katri Saarikivi



The world of the future looks very different for our students

65% of students

in grade school will perform jobs that have not been invented yet!

47% of current jobs

are expected to be taken over by machines during the next two decades

6.5 million

new IT jobs by 2022, most in cloud-related technology fields

Only **33%** of the world's demand for employees with technology skills is being met

Percentage of jobs requiring technology skills will

increase to 77% in less than a decade



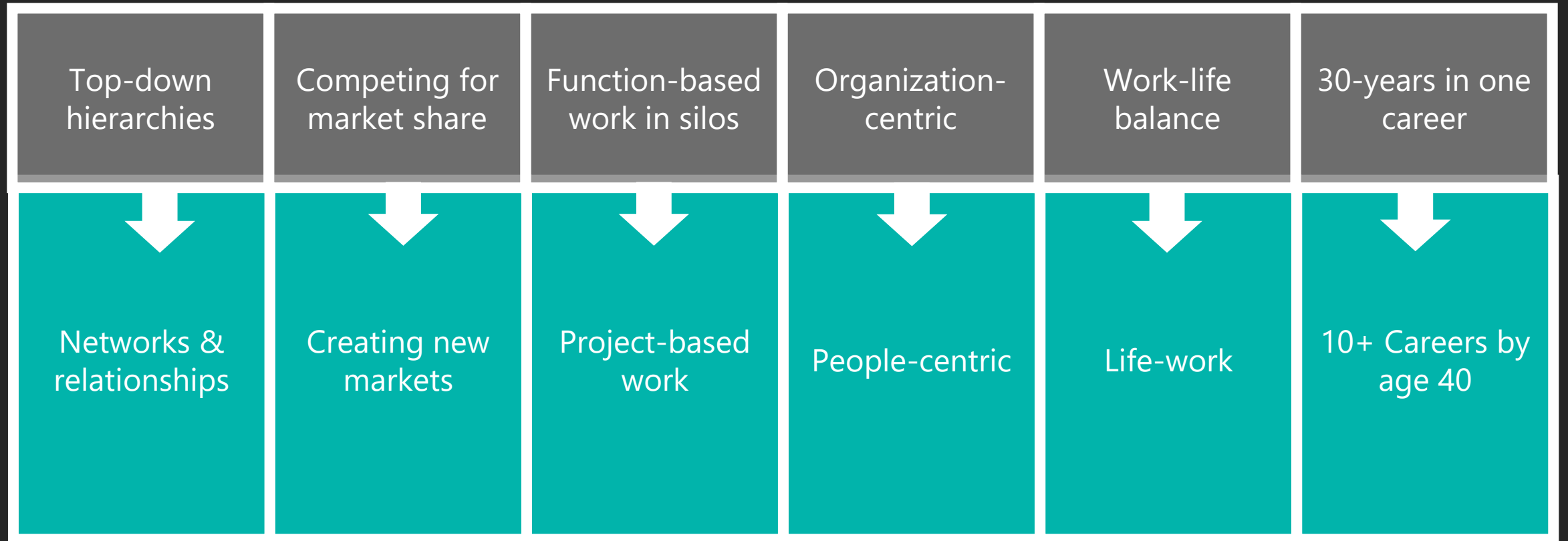
PEOPLE MOVE TO
FIND JOBS



JOBS MOVE TO
FIND PEOPLE



From 20th century jobs to 21st century work



Keskustelu!

Mikä vaikutti
mielenkiintoiselta?
Mitä taitoja nuori tarvitsee
 pärjätäkseen tulevaisuuden
työelämässä?

3:00

Building essential life skills



Creativity

Communication

Collaboration

Critical thinking

Computational thinking

PÄIVÄNTIMANTTI: Uusien opetusmenetelmien ongelmat ovat kouluissa tuttuja, mutta Pisa-tulosten laskusta niitä ei voi syyttää

ULKOMAAT: Tuhoisista maastopaloista kärsivä Kalifornia vetää ilmastopolitiikassa täysin eri linjaa kuin Donald Trump

Mielipide | Mielipide

Oppilaiden, vanhempien ja opettajien enemmistö alkaa turhautua haittoihin, joita digisekoilu aiheuttaa koulun arjessa

Perinteiset kirjat, opettajan ja oppilaan kasvokkainen kohtaaminen ja opettajan puhe leimataan menneen ajan reliikkeiksi.

Julkaistu: 4.10. 2:00 , Päivitetty: 4.10. 10:36



KESKUSTELU kouluopetuksen digitalisoinnin haitoista on viimein otanut tuulta purjeisiinsa. Oppilaiden, vanhempien ja opettajien tähän saakka hiljainen enemmistö alkaa turhautua haittoihin, joita digisekoilu aiheuttaa koulun arjessa.

DIGILOIKAN perustelut ovat moninaiset. Olemme jääneet Pisa-tutkimuksissa huippusijoituksista, mihin on ehdottomasti tultava muutos - muutenhan suomalaista koulujärjestelmää ei enää ihailla ulkomailla! Lienee sattumaa, että digitalisaation tuominen kouluihin on tapahtunut samaan aikaan kun sijoitukset vertailuissa ovat pudonneet.

Juhlapuheissa kyllä ylistetään hyviä opettajia ja kerrotaan heidän olevan koulujärjestelmämme menestyksen kulmakiviä. Vuosikymmeniä opetusallalla olleet opetusammattilaiset on kuitenkin nykyilmapiirissä

Luetuimmat

MIELIPIDE

Mielipide
opetuksen
haittoihin

MIELIPIDE

Mielipide
ehkäisy

Elämä

Tutkimus paljastaa: Koulujen uudet menetelmät heikentävät oppimista merkittävästi

Oppilaiden käyttämä aika lapsen koulunkäyntiin näkyy suoraan...
Keltikangas-Järvinen

Luetuimmat - Elämä & Hyvinvointi

...en laskun syitä tutkinut...
...määsty saamastaan...
...rasta: "Kuulostaa...
...avalta, jos...
...set on sivuutettu"



...heen...
...minen...
...nnyksen



Ympäristö

Organisaatio



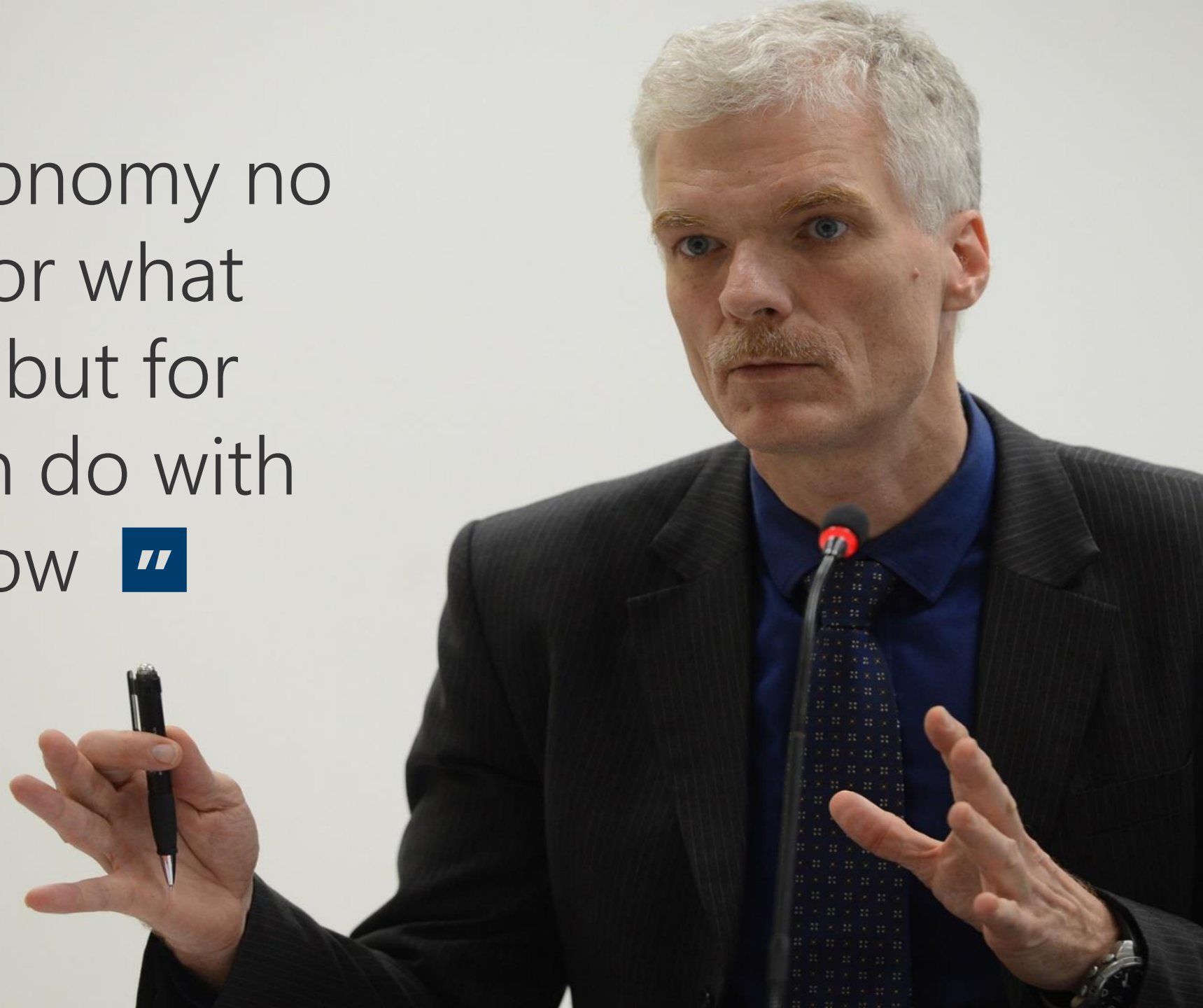
To deliver on the promises technology holds, countries will need a convincing strategy to build teachers' capacity. And policy-makers need to become better at building support for this agenda.

OECD, 2015



“ The world economy no longer pays for what people know but for what they can do with what they know ”

Andreas Schleicher
OECD Deputy Director for Education





TECHNOLOGY MUST GO

BEYOND DIGITIZATION

THE SAMR MODEL

Dr. Ruben R. Puentedura

S

SUBSTITUTION

Technology acts as a direct substitute, with no functional change

A

AUGMENTATION

Technology acts as a direct substitute, with functional improvement

M

MODIFICATION

Technology allows for significant task redesign

R

REDEFINITION

Technology allows for the creation of new tasks, previously inconceivable

ENHANCEMENT

TRANSFORMATION



Digitale
Transformatie



@zelfstudie

S

Using MS Word to replace a typewriter.

A

Using the spell checker in MS Word

M

Inserting comments in Word Online -> offering feedback

R

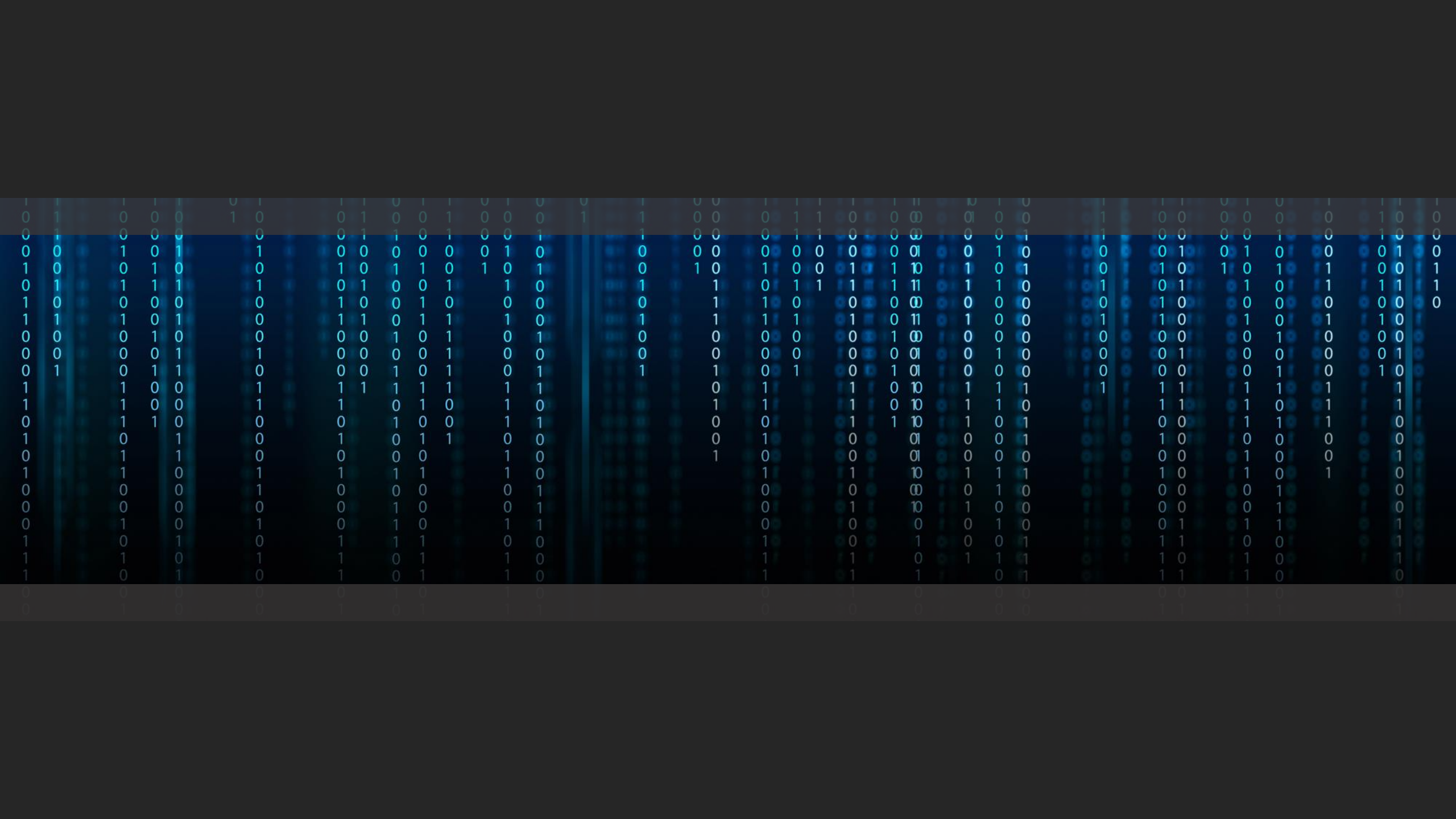
Using Word Online to promote collaboration

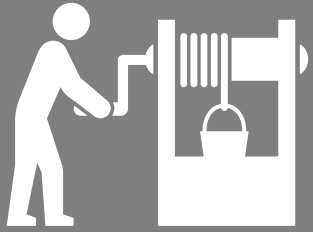


AUGMENTED REALITY

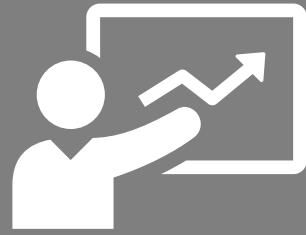
THE RISE OF DATA

ARTIFICIAL INTELLIGENCE





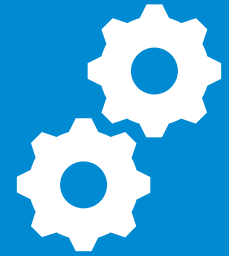
DATA COLLECTION



DATA DISPLAY

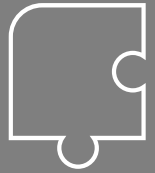


PREDICT

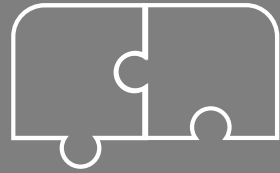


DRIVE OUTCOMES

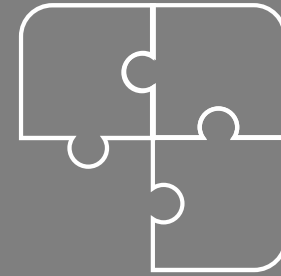
FOUR PHASES OF DATA-DRIVEN TRANSFORMATION



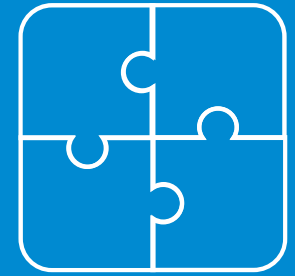
WHAT HAPPENED?



WHY DID IT HAPPEN?



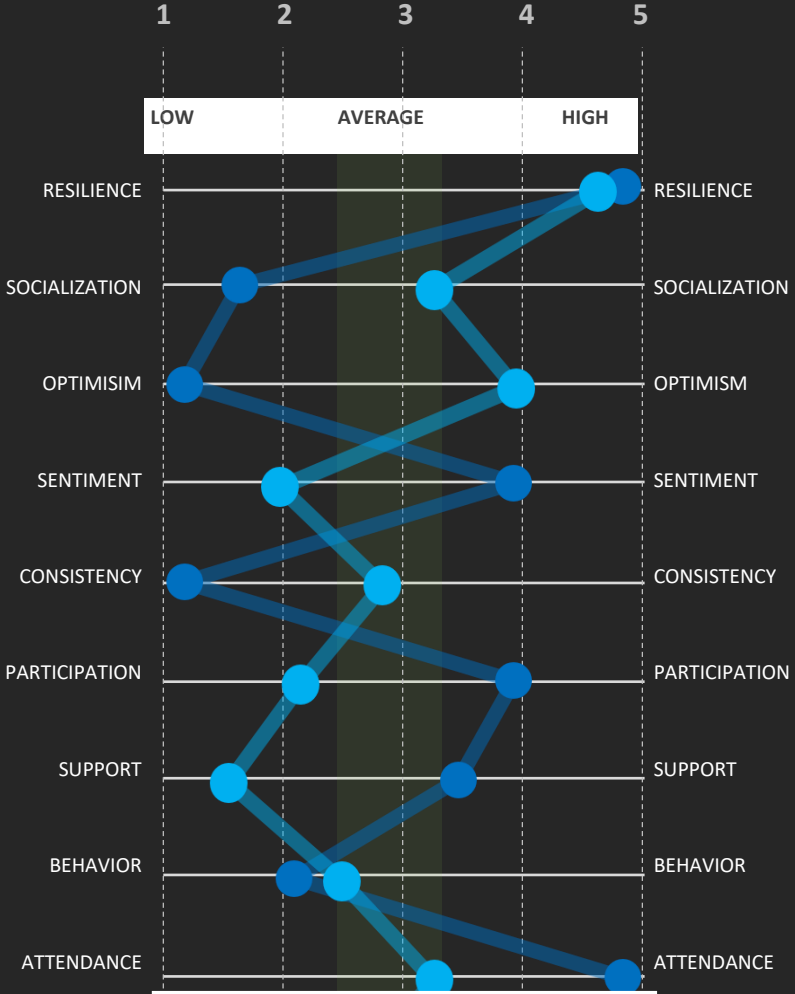
WHAT WILL HAPPEN?



WHAT SHOULD I DO?

Who is most at risk?

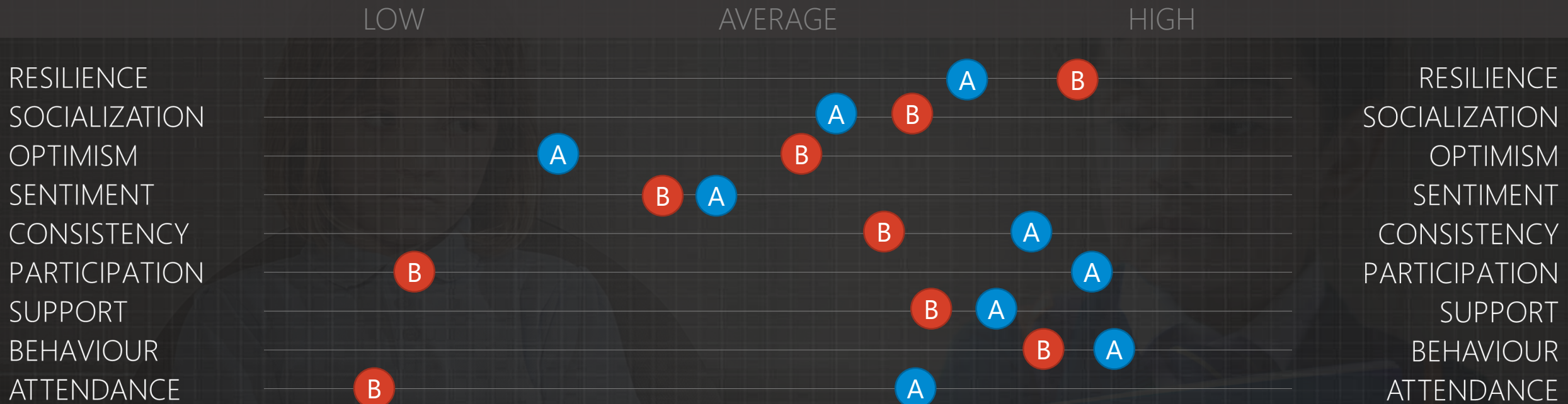
A



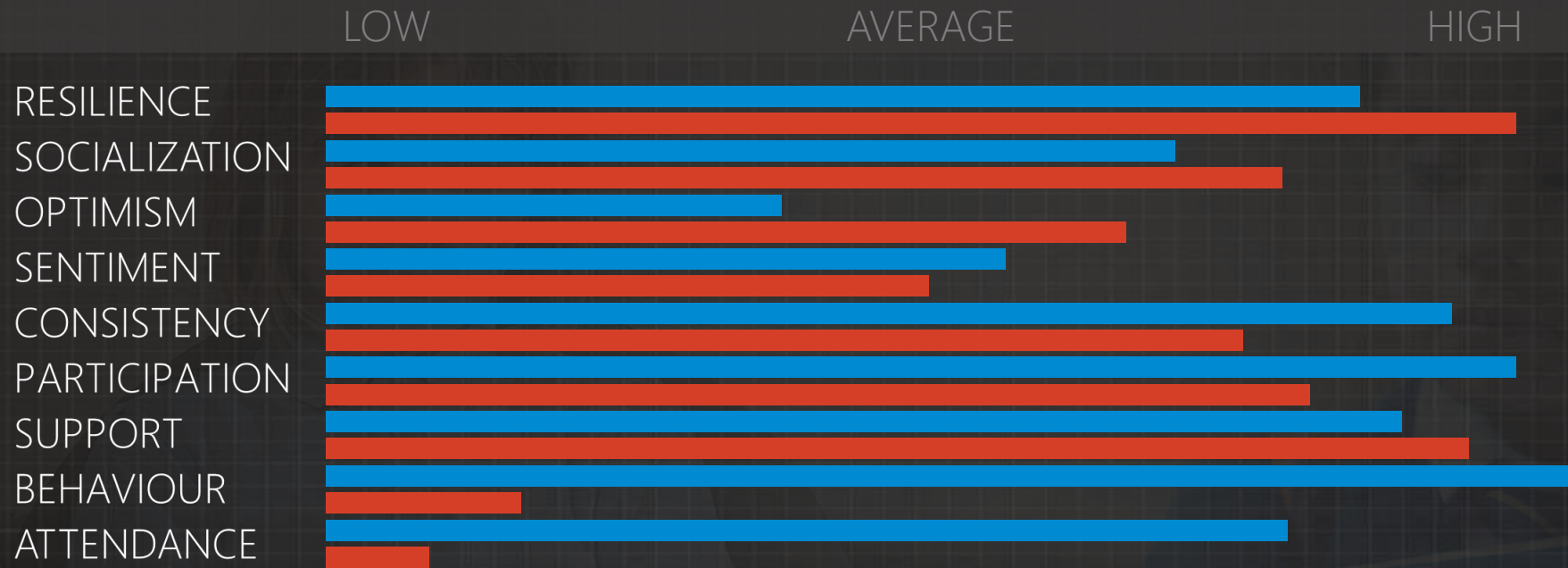
B



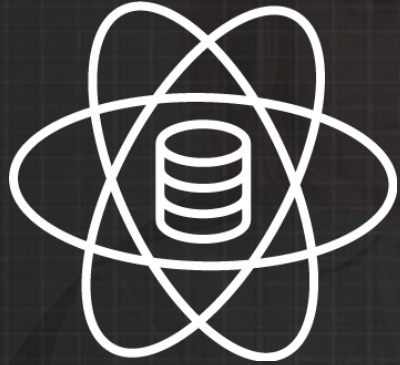
WHO IS AT GREATER RISK?



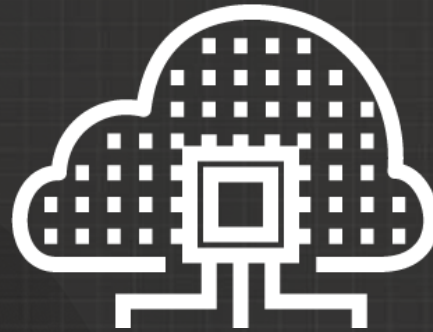
WHO IS AT GREATER RISK?



THREE CONVERGING TECHNOLOGIES



DATA



CLOUD PROCESSING



MACHINE LEARNING



Panthera uncia **SNOW LEOPARD**



Population: ?



*Population: 5,000**

**SOURCE: Snow Leopard Survival Strategy, Seattle, USA: International Snow Leopard Trust and Snow Leopard Network.*





















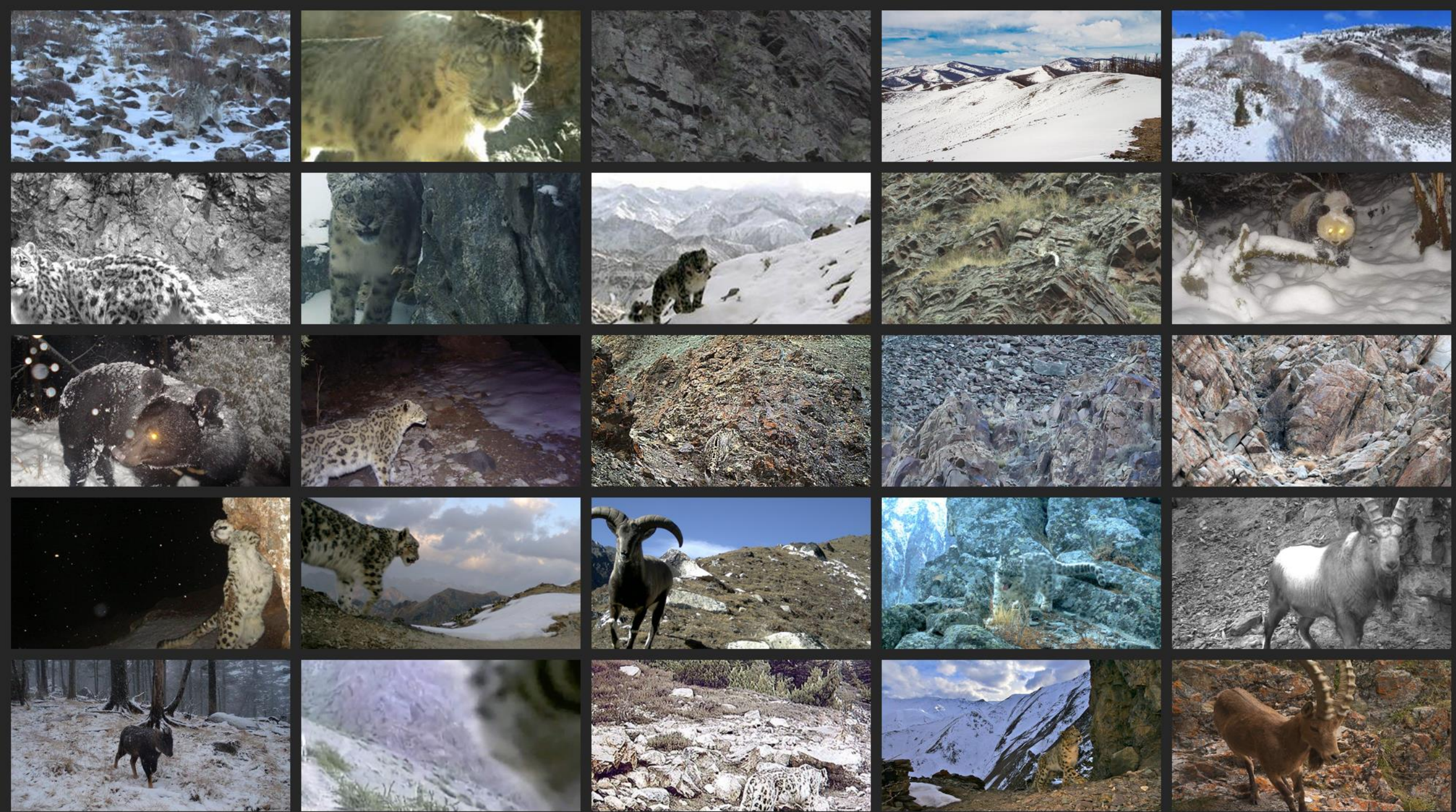


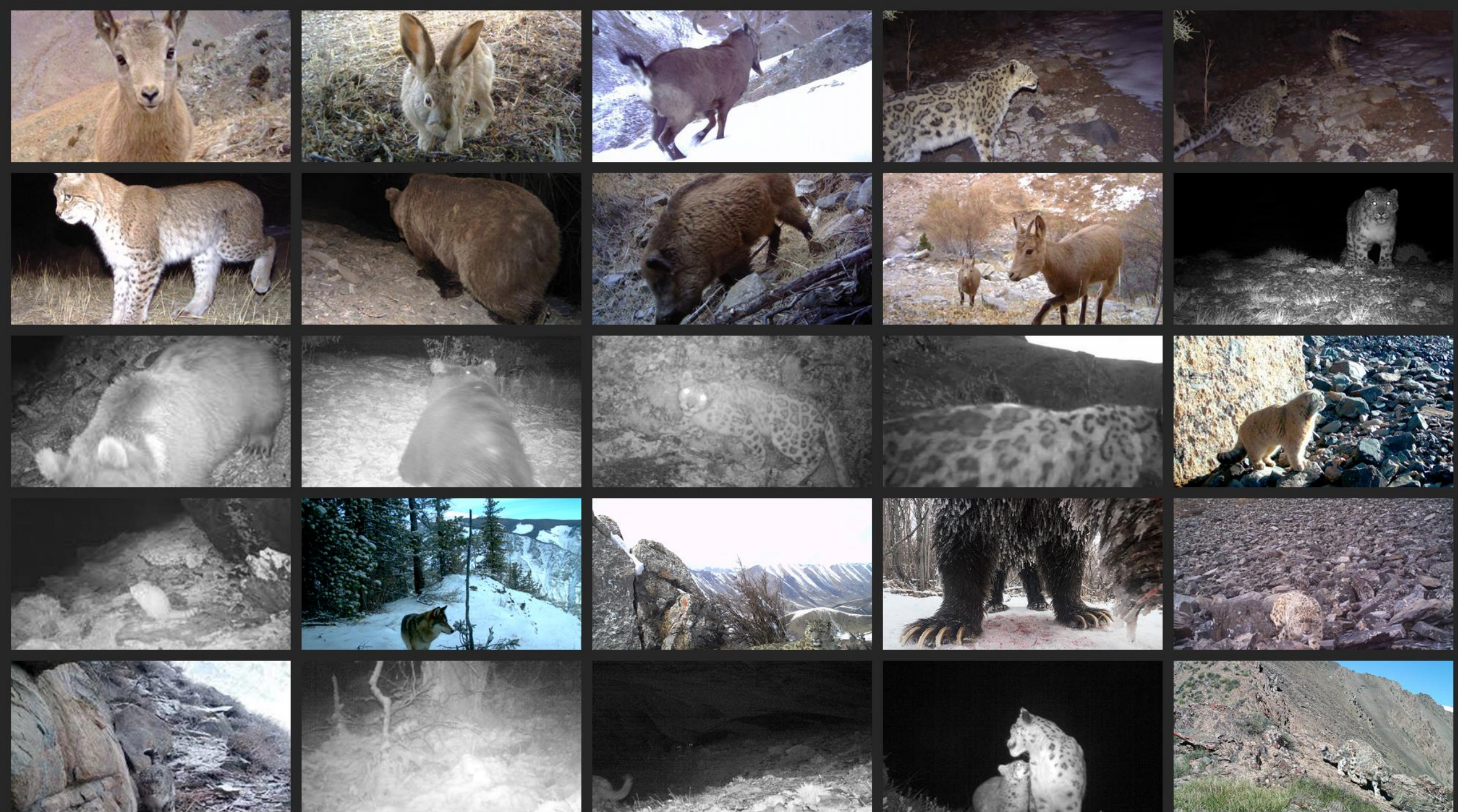


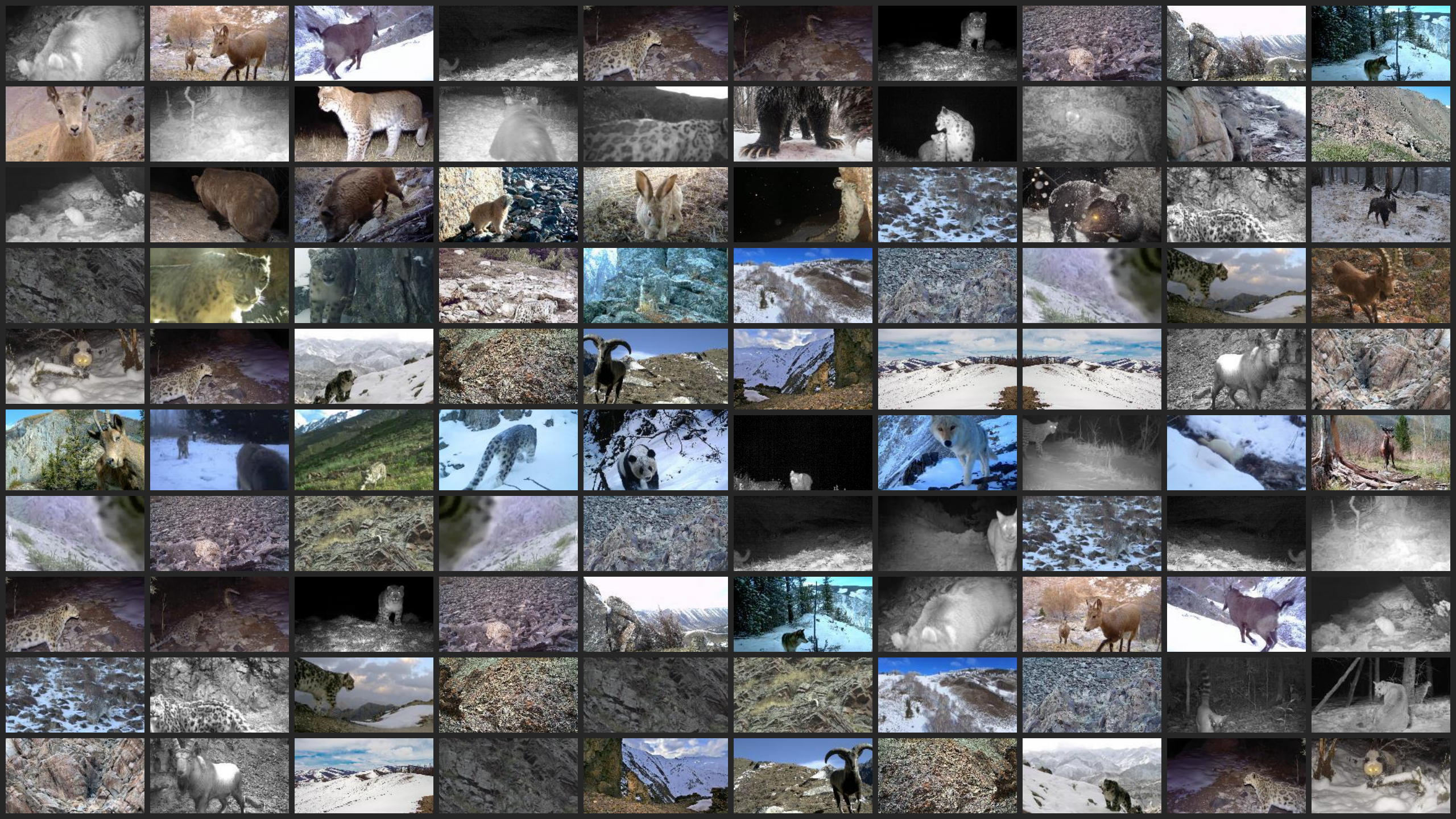








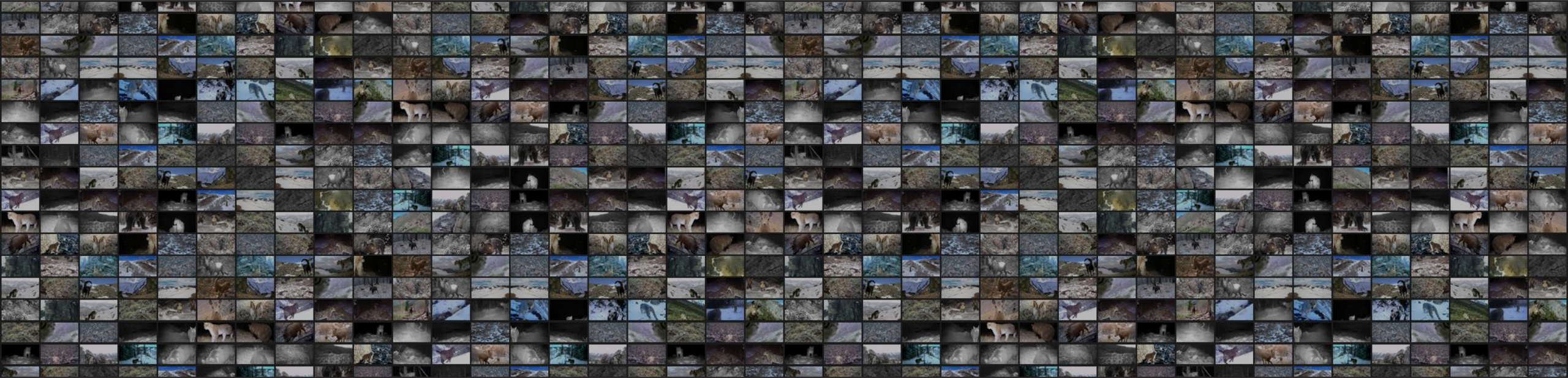






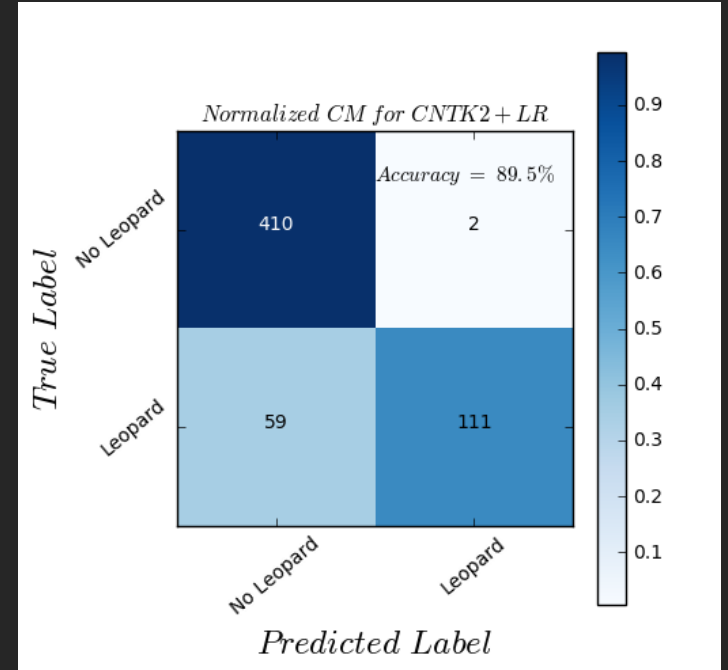


**100K IMAGES PER SURVEY
300 HOURS TO CLASSIFY**



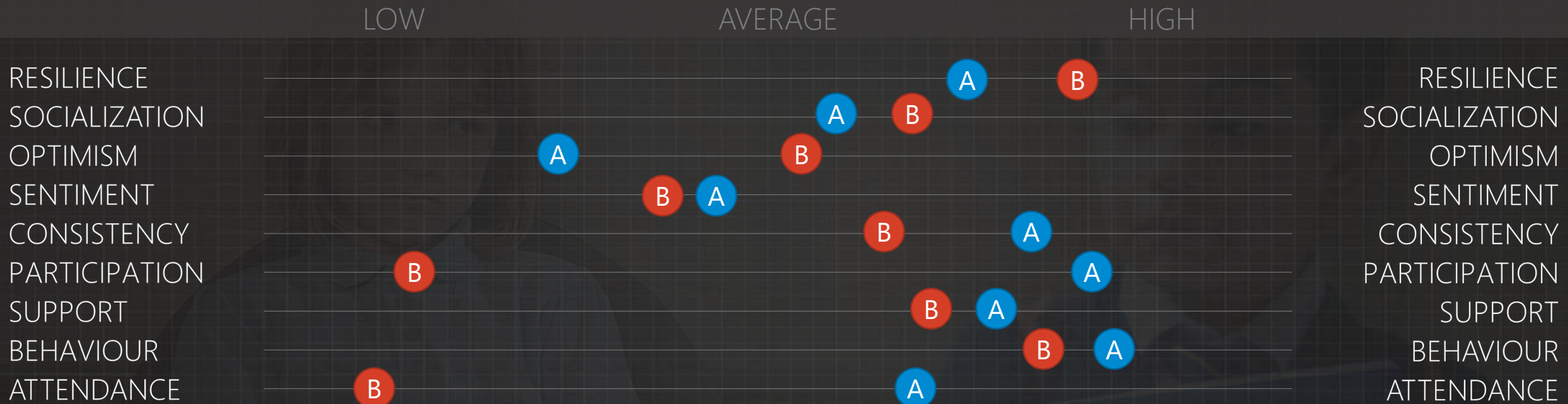
**15 SURVEYS PER YEAR
4500 HOURS (560 8HR DAYS) TO CLASSIFY**

90% ACCURACY



ARTIFICIAL INTELLIGENCE

WHO IS AT GREATER RISK?



Kiitos!