

MATERIAL MATTERS

BUSINESS MODELS FOR THE CIRCULAR ECONOMY

FOKUS KREISLAUFWIRTSCHAFT
ZURICH 14 NOVEMBER 2017

SABINE RAU-OBERHUBER
CO-FOUNDER TURNTOO

WE ARE GUESTS ON THE PLANET



OUR PLANET A CLOSED SYSTEM



LIMITED RESOURCES



THINKING IN GENERATIONS IS AN ATTITUDE

PATEK PHILIPPE
GENEVE

Begin your own tradition.



You never actually own
a Patek Philippe.

You merely look after it for
the next generation.



Tourbillon
Ticiny-4^e Ref. 4998/00A
patek.com

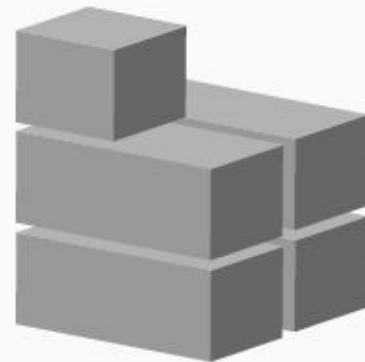


IMPACT OF THE BUILDING INDUSTRY

China: The World's King Of Concrete
China used more concrete in 3 years than the US used in the 20th century

United States 

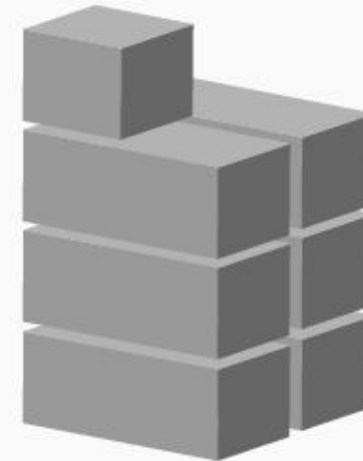
In 100 years



4.5 gigatons
(1901-2000)

China 

in 3 years



6.6 gigatons
(2011-2013)

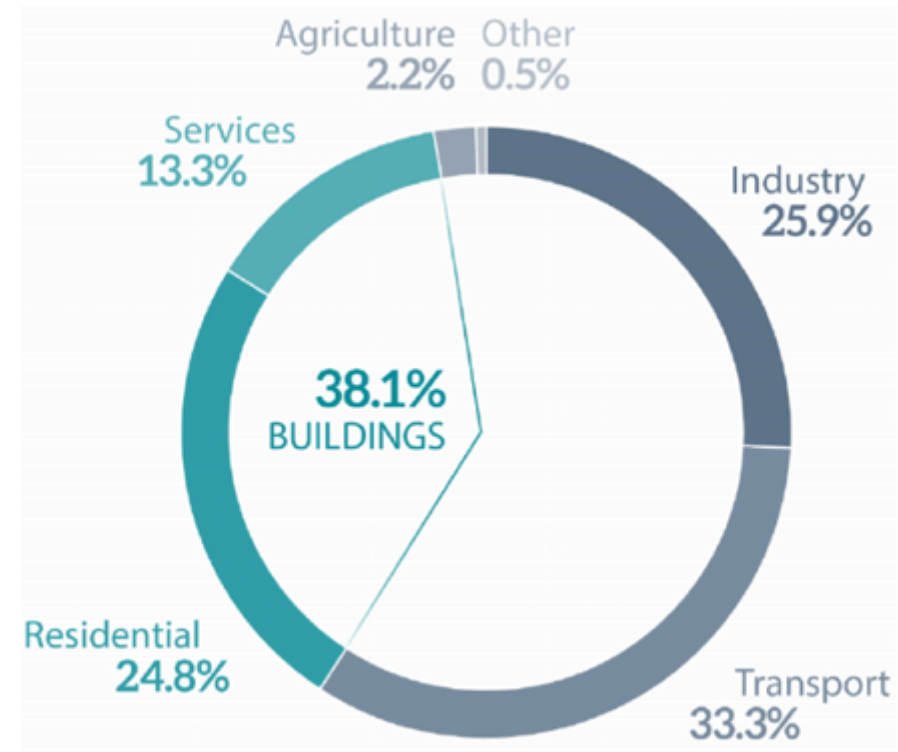


Sources: Gatesnotes, USGS, Cement Statistics, USGS,
Mineral Industry of China 1990-2013

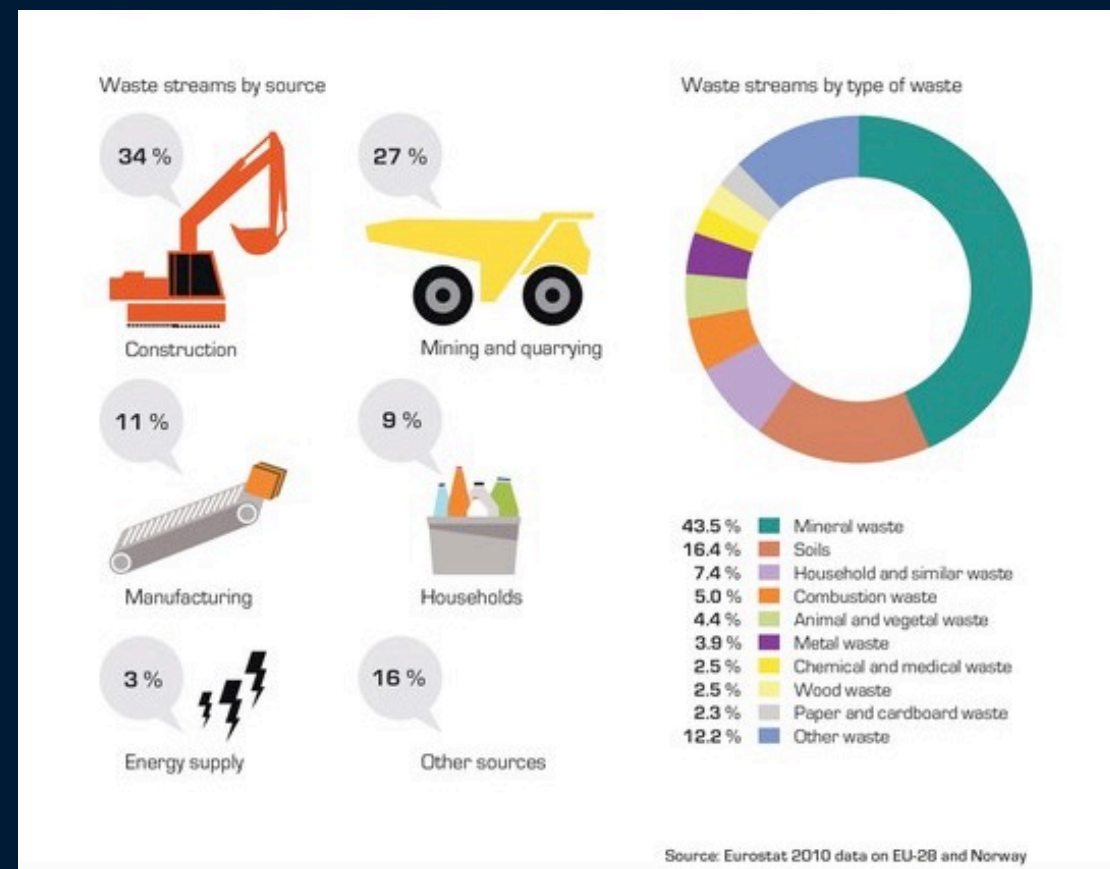
Forbes  statista 

IMPACT OF THE BUILDING INDUSTRY

Figure 1 – 2014 energy consumption by sector in the EU-28



Data source: [Eurostat](http://ec.europa.eu/eurostat), 2014.



UNSUSTAINABLE CONSUMPTION PATTERN



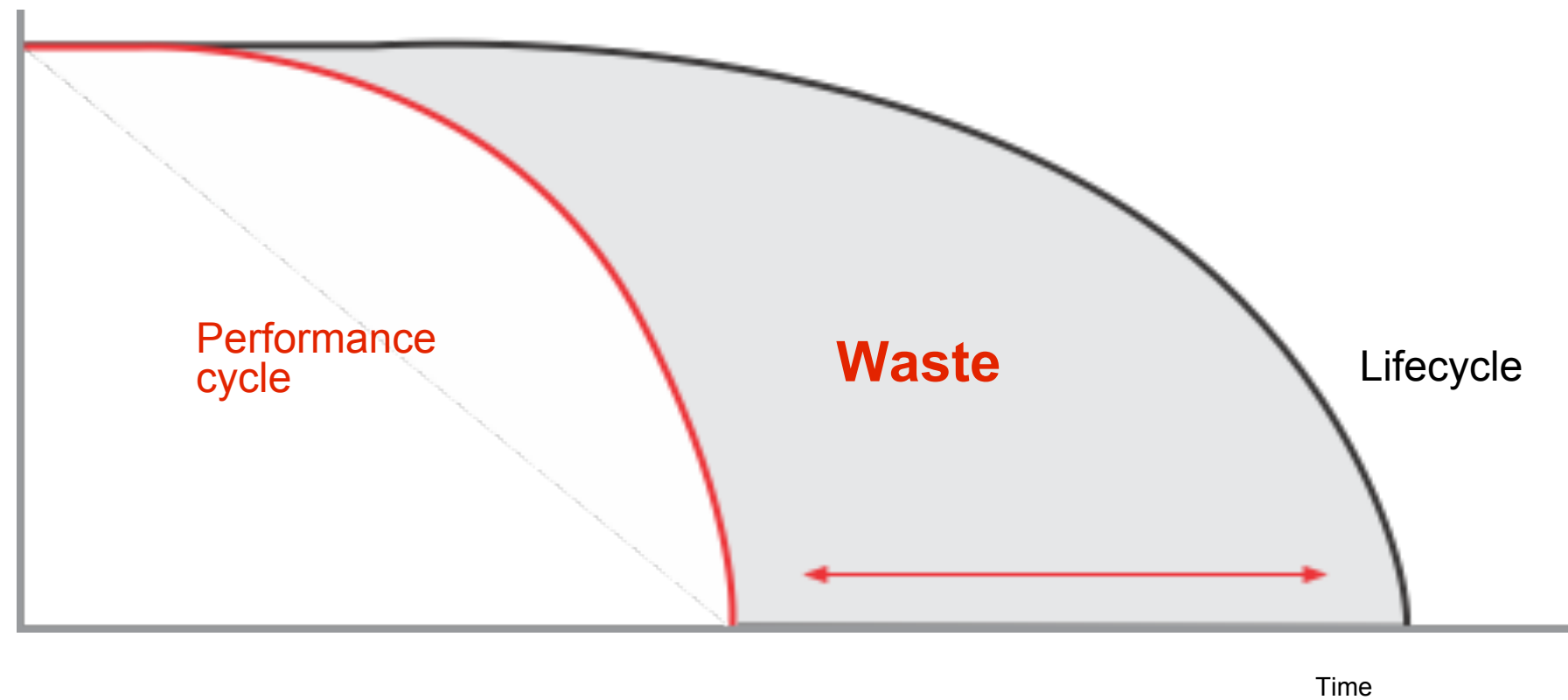
1953 - 1970



2007

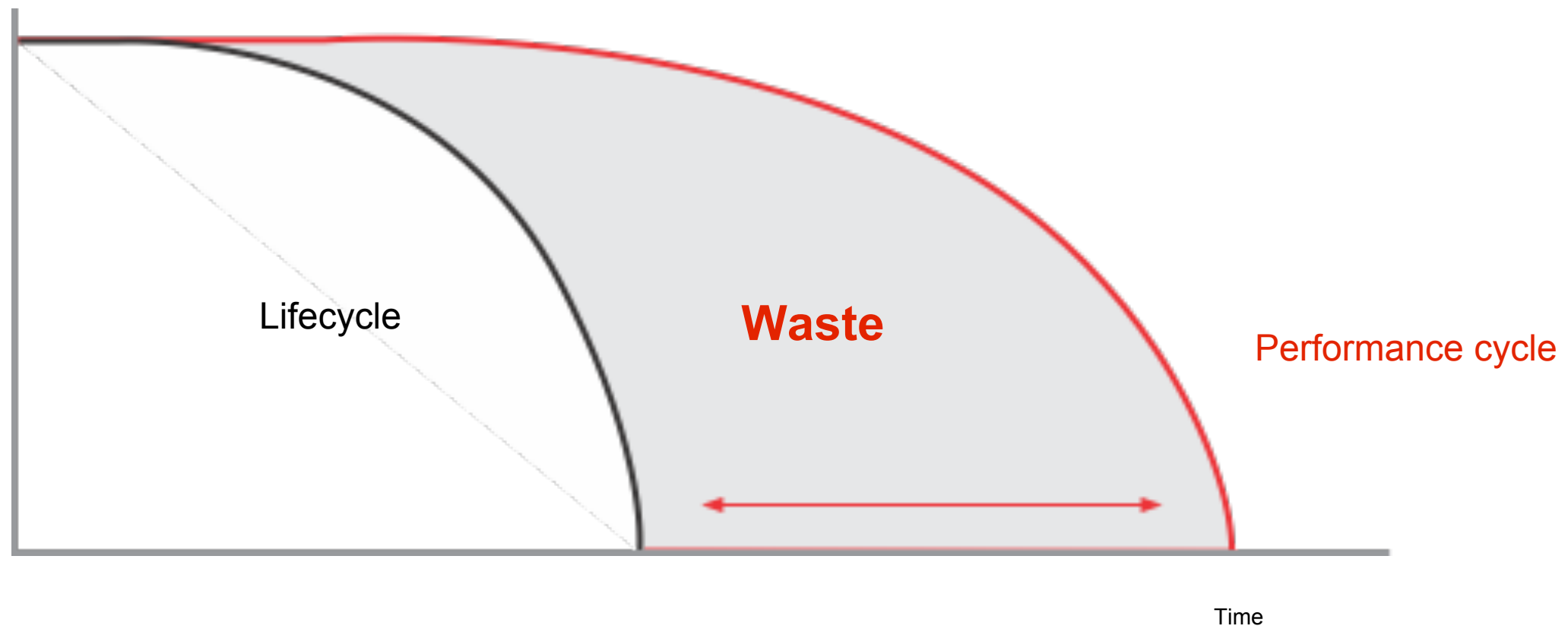
2017

DESIGNED TO BE OUTDATED



fast innovation - creates waste

DESIGNED TO FAIL



bad quality - creates waste

THE EVOLUTION OF MOBILE PHONES

PRODUCTS BECOME MORE COMPLEX

WORLDWIDE MARKET GROWTH



UK NETWORK GROWTH



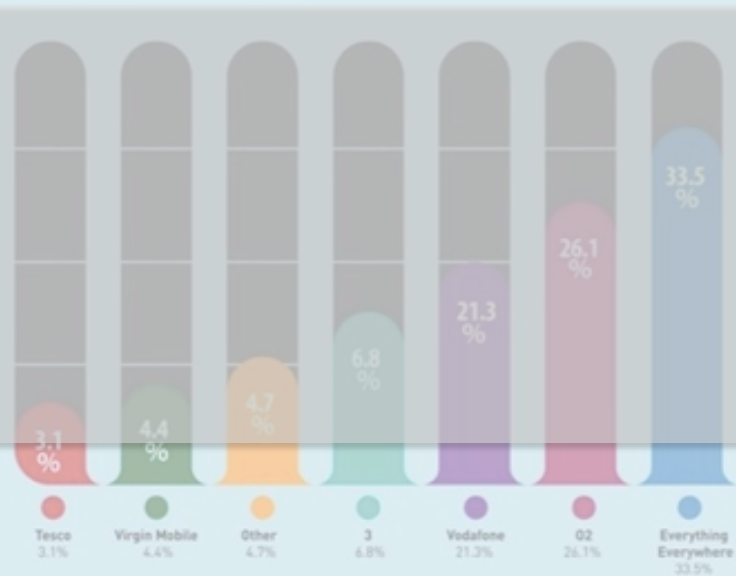
THE RISE OF TEXTS



SMARTPHONES

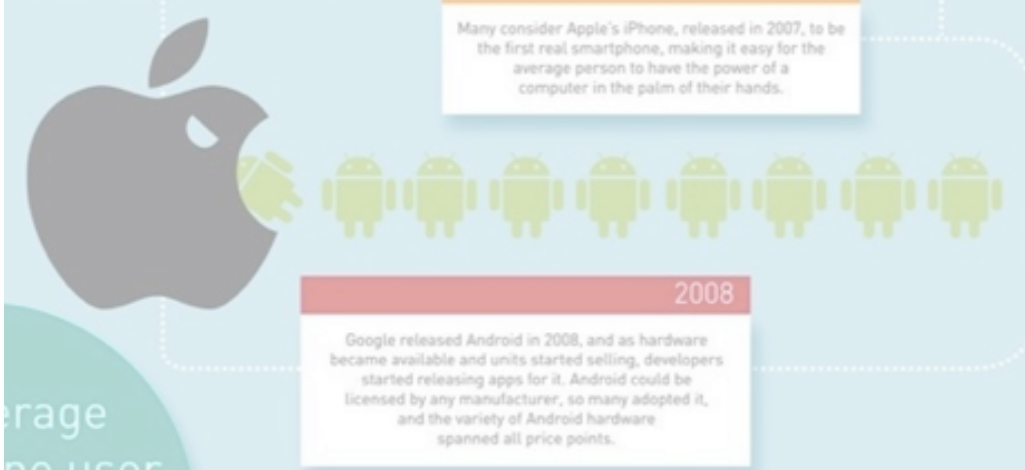


UK NETWORKS BY SIZE



now that a common text acronym LOL (laugh out loud) has even made it into the Oxford Dictionary

ANDROID VS APPLE



average user apps added on phone

Infograph provided by mobilesplease.co.uk

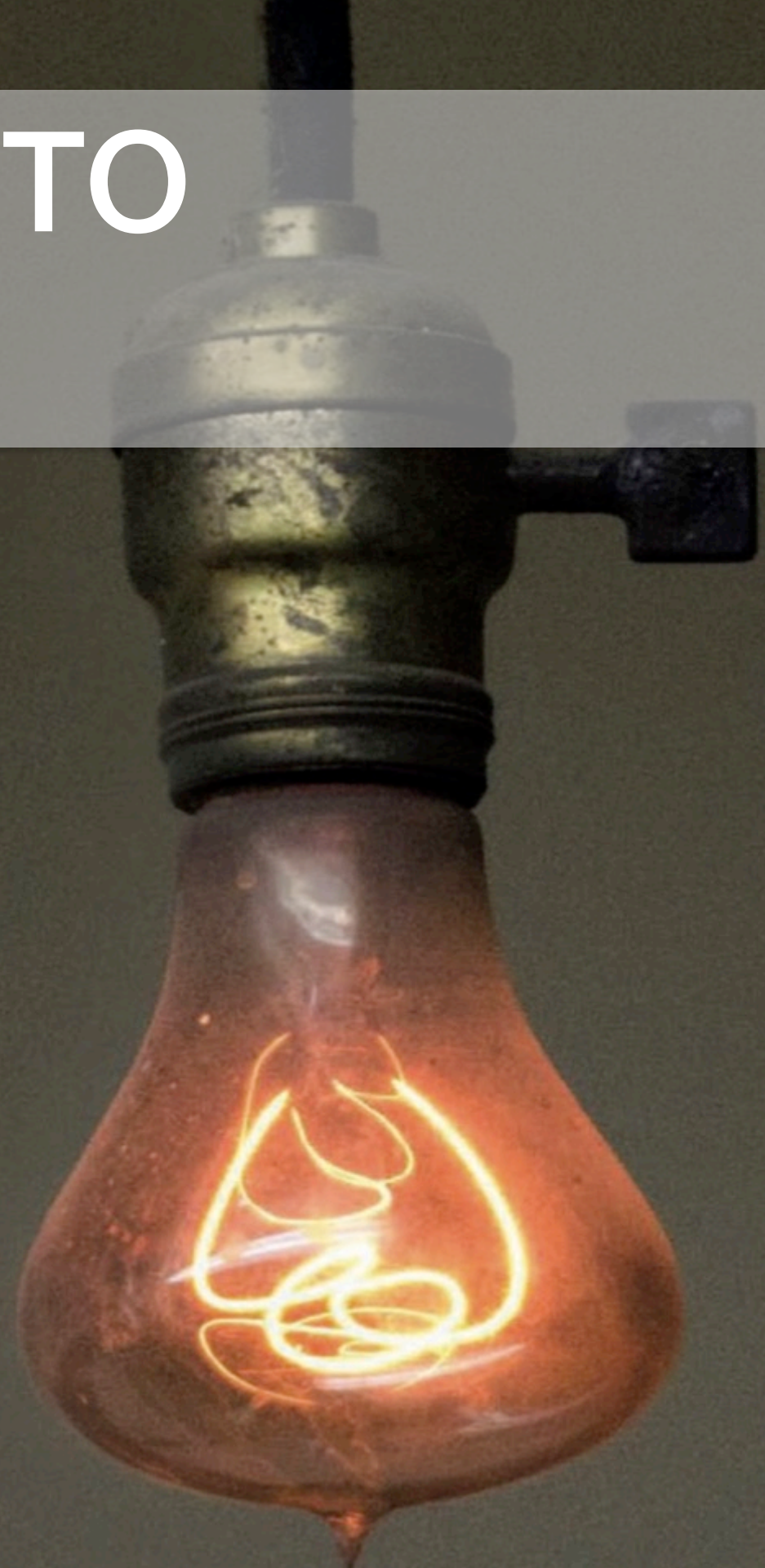
SOURCES

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- <http://hen>
- <http://ww>
- <http://ww>
- <http://gs.s>
- <http://ww>

OUTPUT



DESIGNED TO
LAST



DESIGNED TO
LAST

Glow Longer in
Livermore

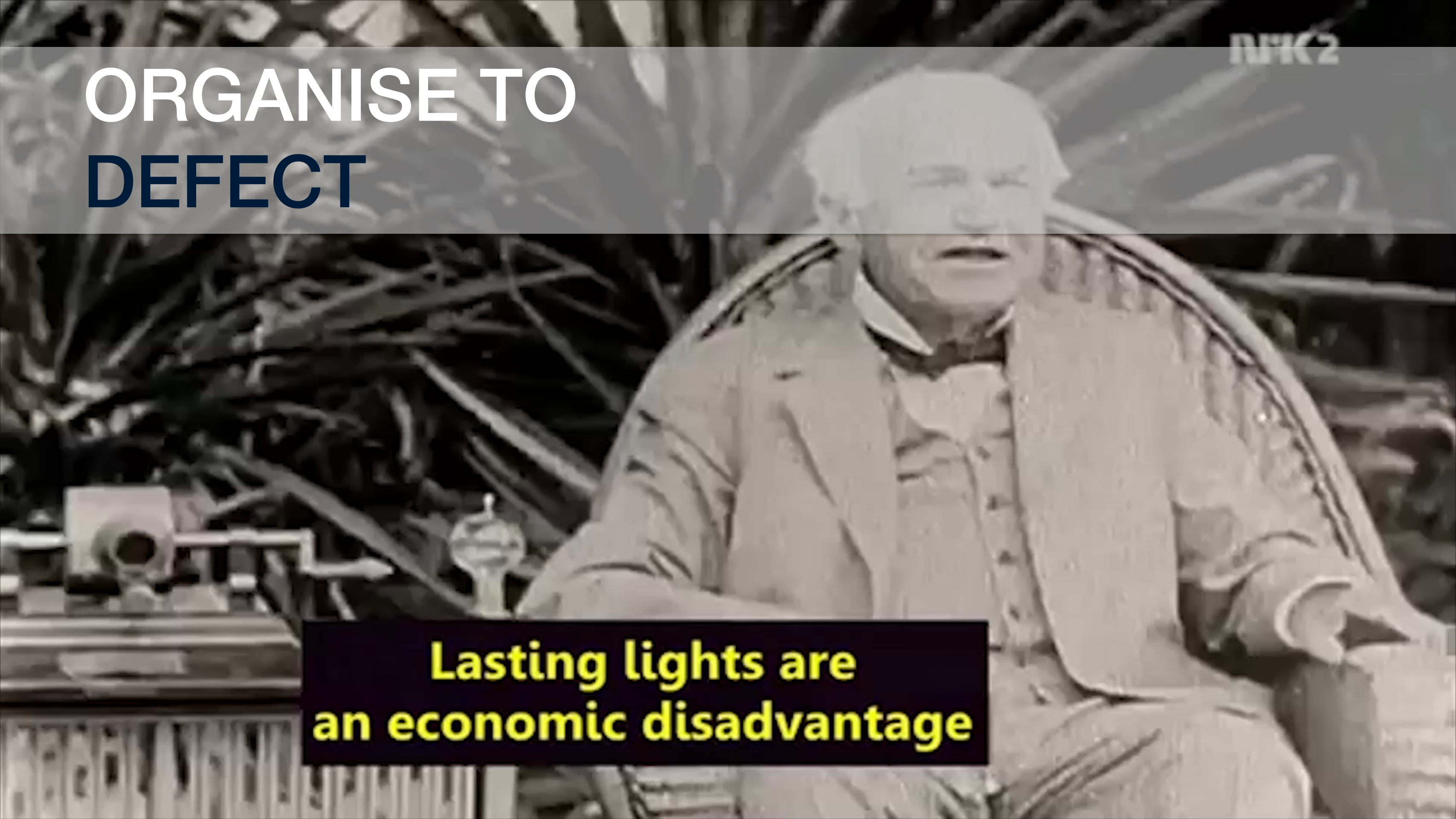


1901-2011

Livermore, California

ORGANISE TO DEFECT

**Lasting lights are
an economic disadvantage**



A SYSTEMS APPROACH

BUSINESS-MODELS

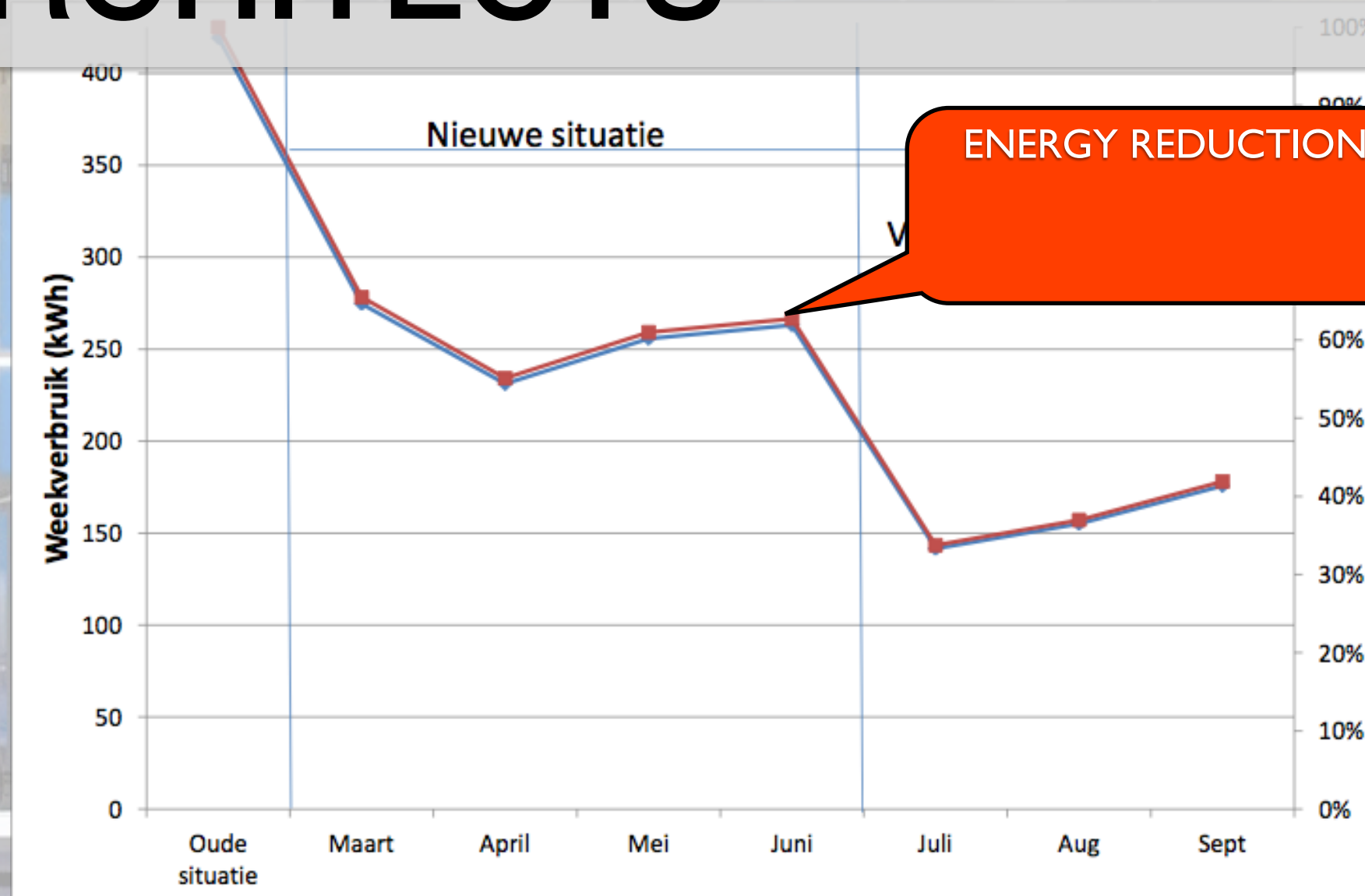
DESIGN FOR CIRCULARITY

MATERIALPASSPORT

MATERIAL DOCUMENTATION

BUSINESS-MODELS

LIGHT AS A SERVICE RAU ARCHITECTS



ENERGY REDUCTION AFTER INSTALLATION

CIRCULAR LIGHTING SCHIPHOL AIRPORT





COOLING AS A SERVICE



€9,95 p/m



DESIGN FOR CIRCULARITY

REAL ESTATE AS A MATERIALS DEPOT



REAL ESTATE BECOMES MOBILE ESTATE



LIANDER HEADQUARTERS

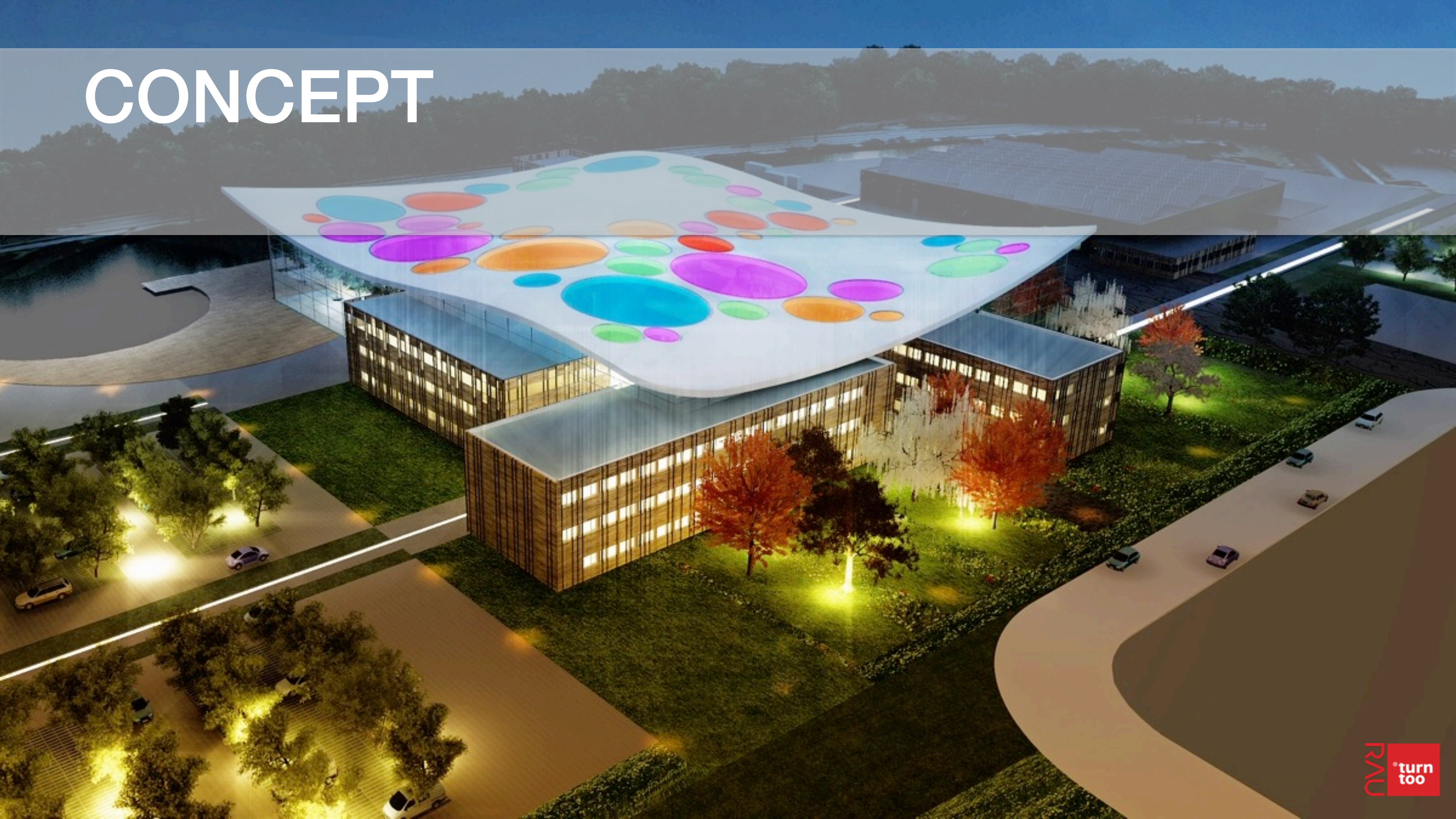


ASSIGNMENT

23.000 m² for 1600 workplaces + workshops + storage

DUIVEN, 1980-2012

CONCEPT



RECYCLE

FOUNDATION & CONCRETE FLOOR



REUSE



REUSE



STRAKS ZIJN ZE SCHOON

DUIVEN, 23 JANUARI 10.35 UUR

83 toiletpotten, urinoirs, wasbakken en planchets liggen klaar om herplaatst te worden in het nieuwe onderkomen van Allander in Duiven. Lange tijd lagen ze te 'luchten' in de open ruimte en was de stapel vanaf de weg zichtbaar. Nu staat eindelijk de

gevel ervoor. Hoogtepunt van de herbouw is het plaatsen van de glazen overkapping. Vanaf half april komt die in delen naar Duiven. Nu monteren installateurs de stalen draagconstructie waarop de koepels komen te liggen.



Bekijk het actuele filmpje over de herbouw Duiven

REPURPOSE



REPURPOSE



RETHINK



Duiven, 2015

RETHINK



RETHINK

30% LESS STEEL

RESULT

90% CIRCULAR



RESULT ENERGY POSITIVE



BUILDING AS A MATERIAL BANK

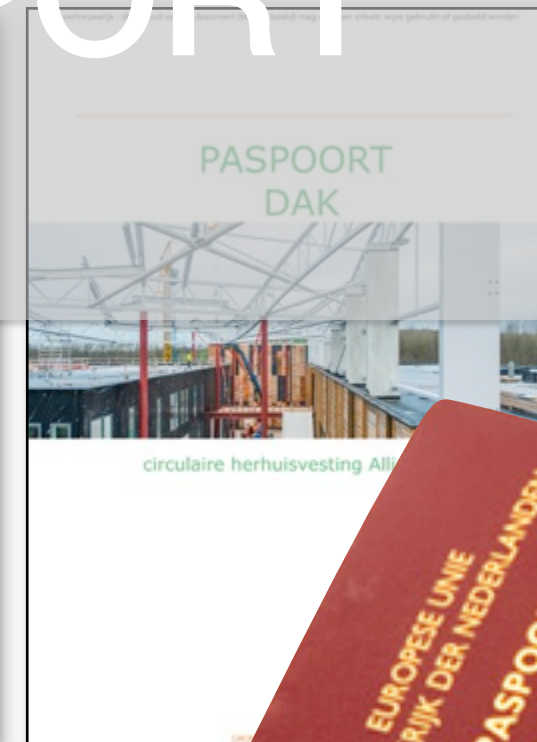


DOKUMENTATION

WASTE IS A MATERIAL WITHOUT IDENTITY



MATERIALSPASSPORT



REGISTRATION





THE ONE MINUTE SUMMARY

Vision

Waste can be eliminated by giving materials a documented identity through a Material Passport.



Governance

A not for profit organisation governs all data and ensures public availability of all (anonymised) data.



Utilization

Facilitate utilisation of data in a multitude of business processes, models and applications.



OBJECTIVE ELIMINATE WASTE



MADASTER - THE REGISTER FOR MATERIALSPASSPORTS



PUBLIC 'SPIRIT' GOVERNANCE DRIVING ENTREPRENEURSHIP

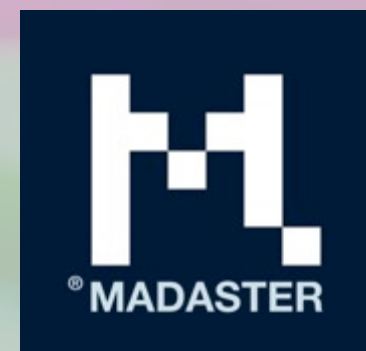


SUPPORTED BY
33 'KENNEDY' ORGANISATIONS

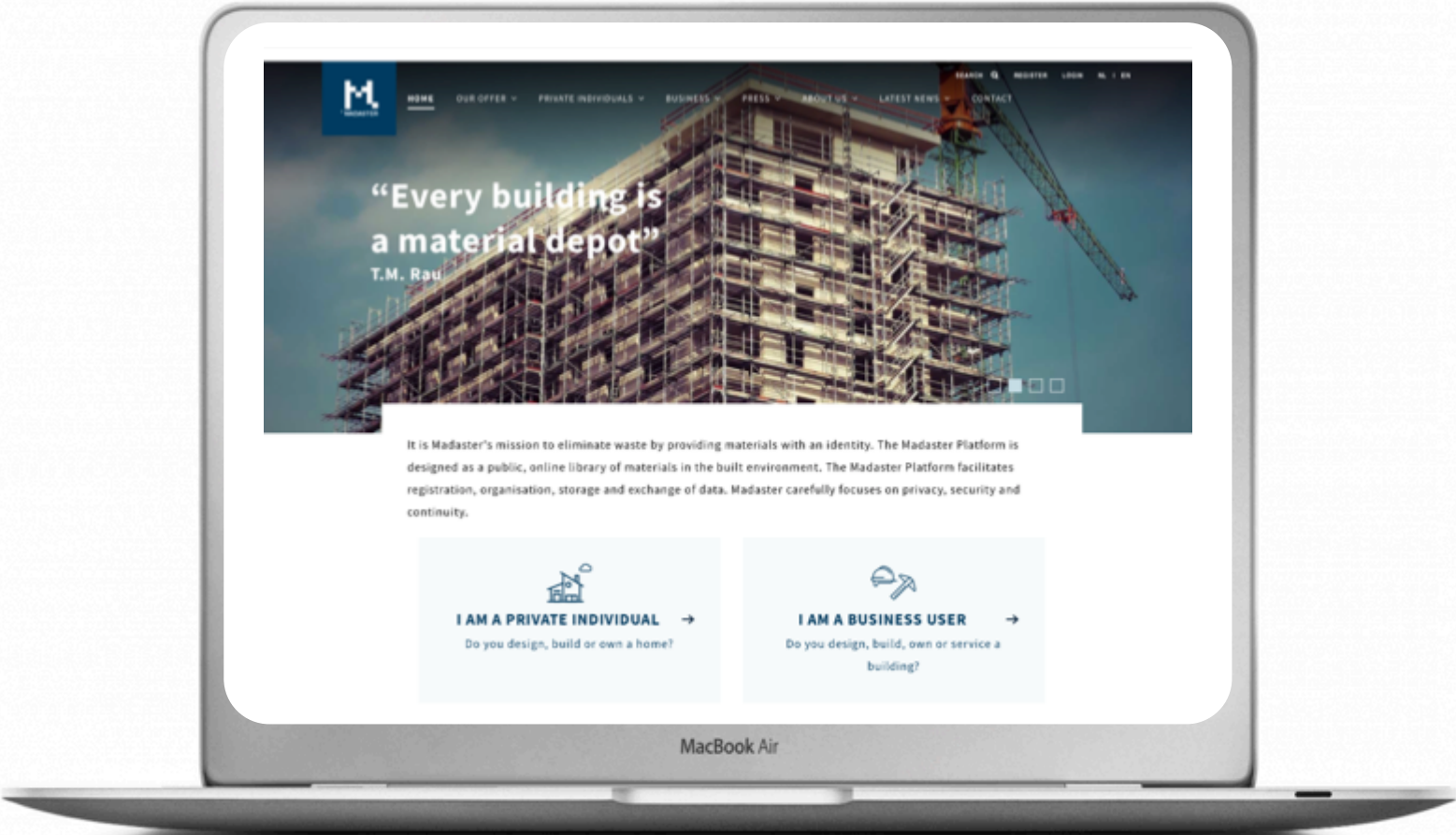


LAUNCHED ON 17/02/17

LIVE ON 29/09/17



AN ONLINE PLATFORM WITH A FULL SERVICE WEBSITE



BY USING MADASTER
YOU KNOW WHAT YOU HAVE



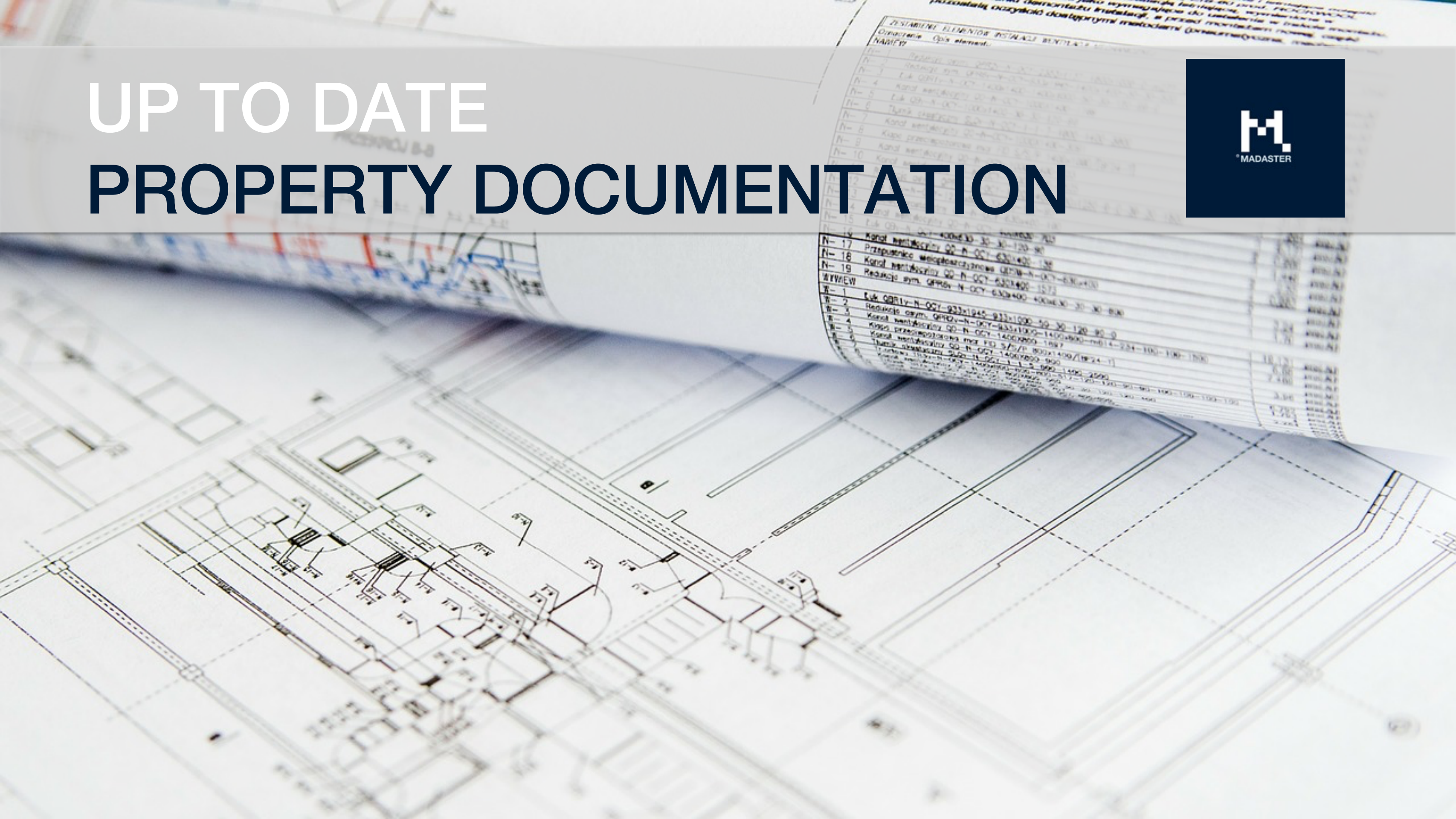
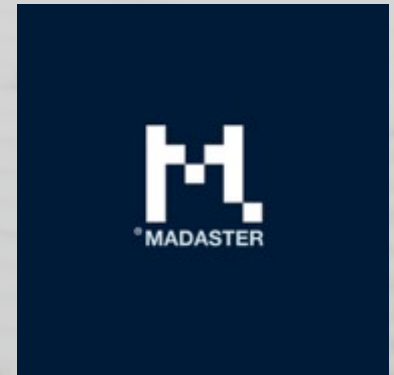
VALUE OF MATERIAL NOW AND IN THE FUTURE



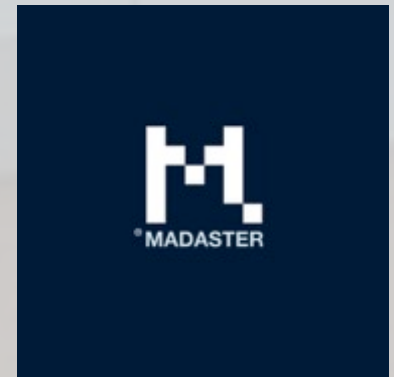
**BY USING MADASTER
YOU KNOW WHAT IS SAFE & HEALTHY**



UP TO DATE PROPERTY DOCUMENTATION



ALTERNATIVE VALUATION



DESIGN NEW OBJECTS WITH EXISTING RESOURCES



MADASTER



GET PROPOSALS FACT BASED





A long term
view improves
our view of
the short term.

Asset Management
Wealth Management
Asset Services

www.pictet.com



LEARNING FROM SWITZERLAND

HERZLICHEN DANK