

1863
MAUVAIS SUJET
AUTHOR: FORD MADOX BROWN
SOURCE: TATE [↗](#)

□ OBJECTS 14.29%

- 1 WOMAN WITH BROWN HAIR
- 2 THE EYE OF A MAN
- 3 THE HAIR IS BLACK
- 4 THE MAN HAS A SHORT HAIR

○ FACES 0.00%

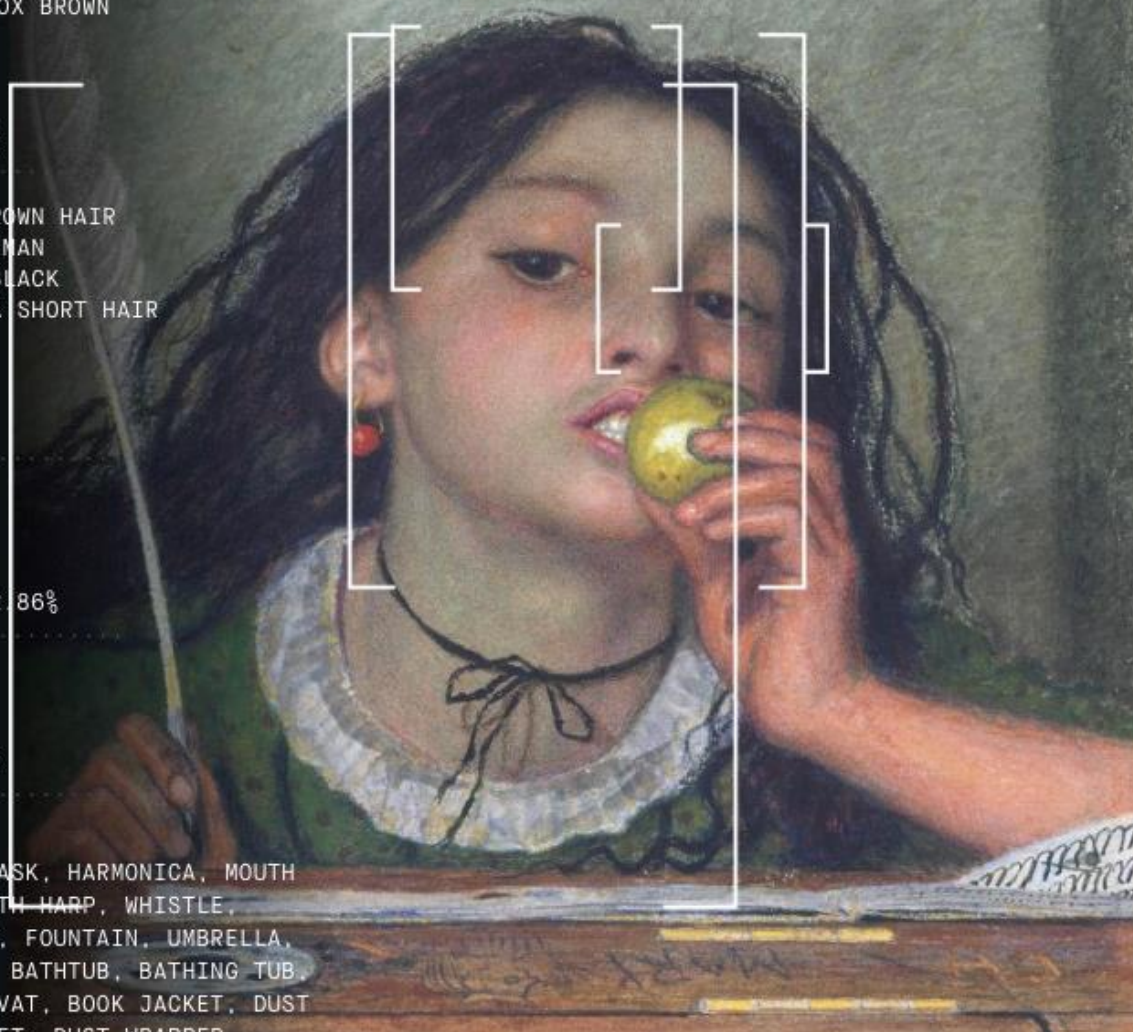
NO FACES FOUND

△ COMPOSITION 42.86%

≡ CONTEXT 42.86%

TAGS

BUBBLE, OXYGEN MASK, HARMONICA, MOUTH
ORGAN, HARP, MOUTH HARP, WHISTLE,
MICROPHONE, MIKE, FOUNTAIN, UMBRELLA,
SWING, SOMBRERO, BATHTUB, BATHING TUB,
BATH, TUB, TUB, VAT, BOOK JACKET, DUST
COVER, DUST JACKET, DUST WRAPPER



La Digital Transformation nei Musei

Giuseppe Della Pietra

Responsabile Museums & Libraries, Microsoft Italia

Prove pratiche di trasformazione digitale nei Musei



Come disegnare la propria
strategia digitale?

A young girl with her hair in a bun, wearing a grey cardigan, is looking up with an expression of wonder at a complex, multi-colored mechanical structure. The structure consists of white, blue, and orange metal frames and springs. The background is a blurred museum or workshop setting with various equipment and colorful elements.

Per ripensare in chiave strategica i beni culturali non bastano le tecnologie, serve una cultura digitale che abbracci tutte le attività del Museo

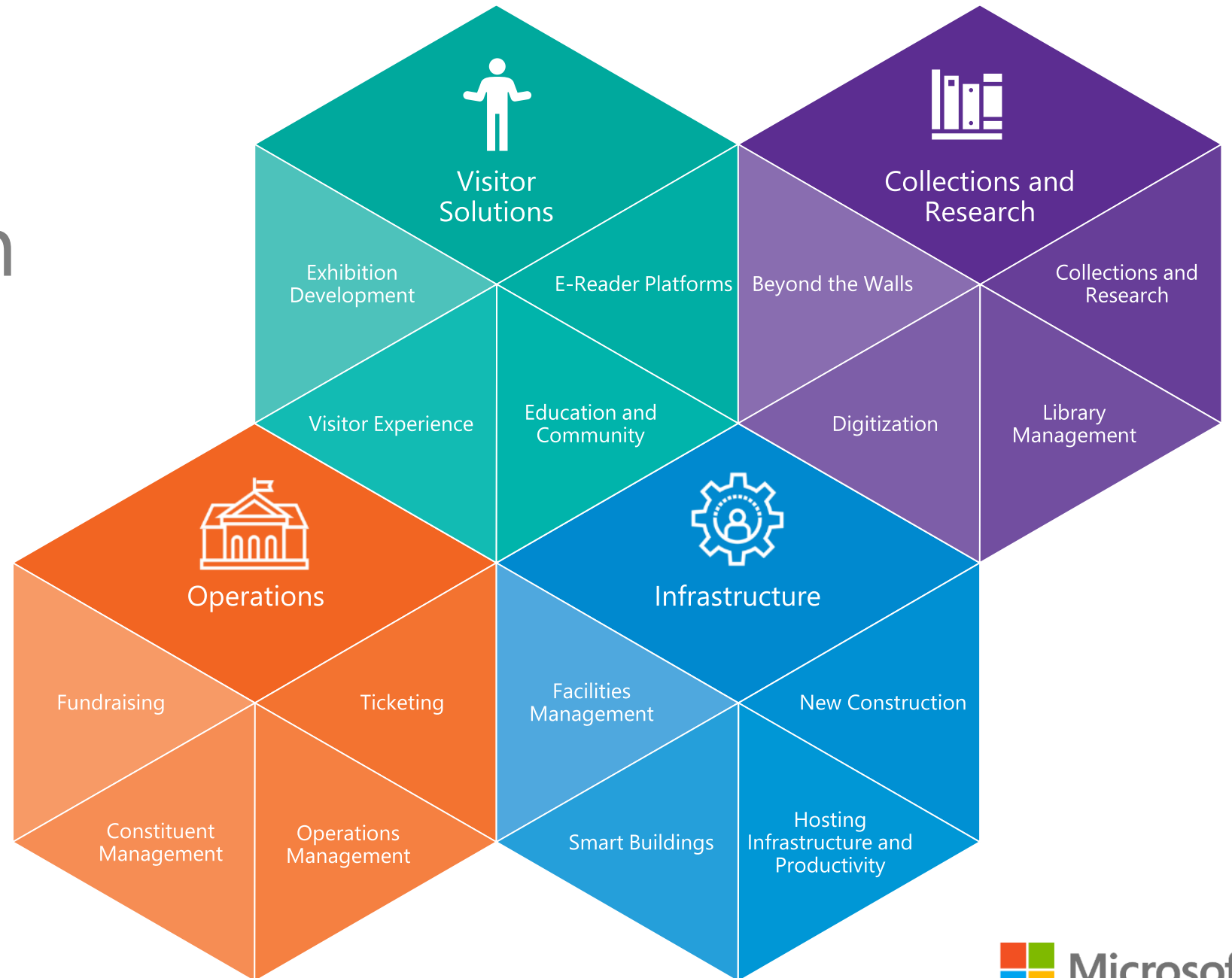


OUR MISSION

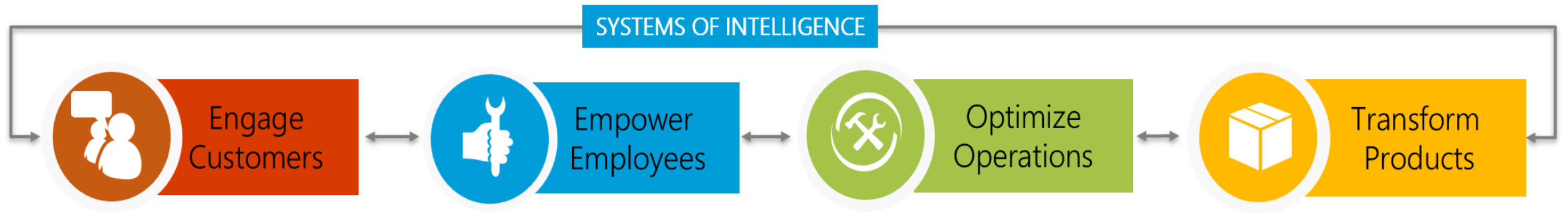
Aiutare ogni Biblioteca e Museo a esprimere tutto il proprio potenziale, ispirando il cambiamento attraverso una strategia di Digital Transformation

- Inspire Change
- Influence Ideas
- Advocate for the industry
- Support Digital Transformation
- Elevating available solutions and technologies

Digital Transformation Framework



Digital Transformation Framework



Potential Focus Areas

For Digital Transformation

○ Infrastructure and Productivity

○ Collections and Research

○ Education and Learning Tools

○ Operational Effectiveness

○ Beyond the Walls

○ Smart Buildings and Security

○ New Buildings and Construction

○ Data-Driven Decision Making

○ Visitor Engagement and Connected Experience

○ Pan Institutional Collaboration and Aggregation



Infrastructure and Productivity

Creating Modern Workplace

Introducing collaborative anytime anywhere working environments

Utilizing Devices

Driving staff efficiency and productivity

Leveraging the Power of the Cloud Technologies

Moving away from on-premises computing



Microsoft Teams



Creating Modern Workplace





Utilizing Devices + Cloud





Microsoft Surface Hub



Collections and Research

Managing collections inventory and storage

Understanding, building, tracking and enabling access to relevant collections, even when not on display

Supporting researchers everywhere

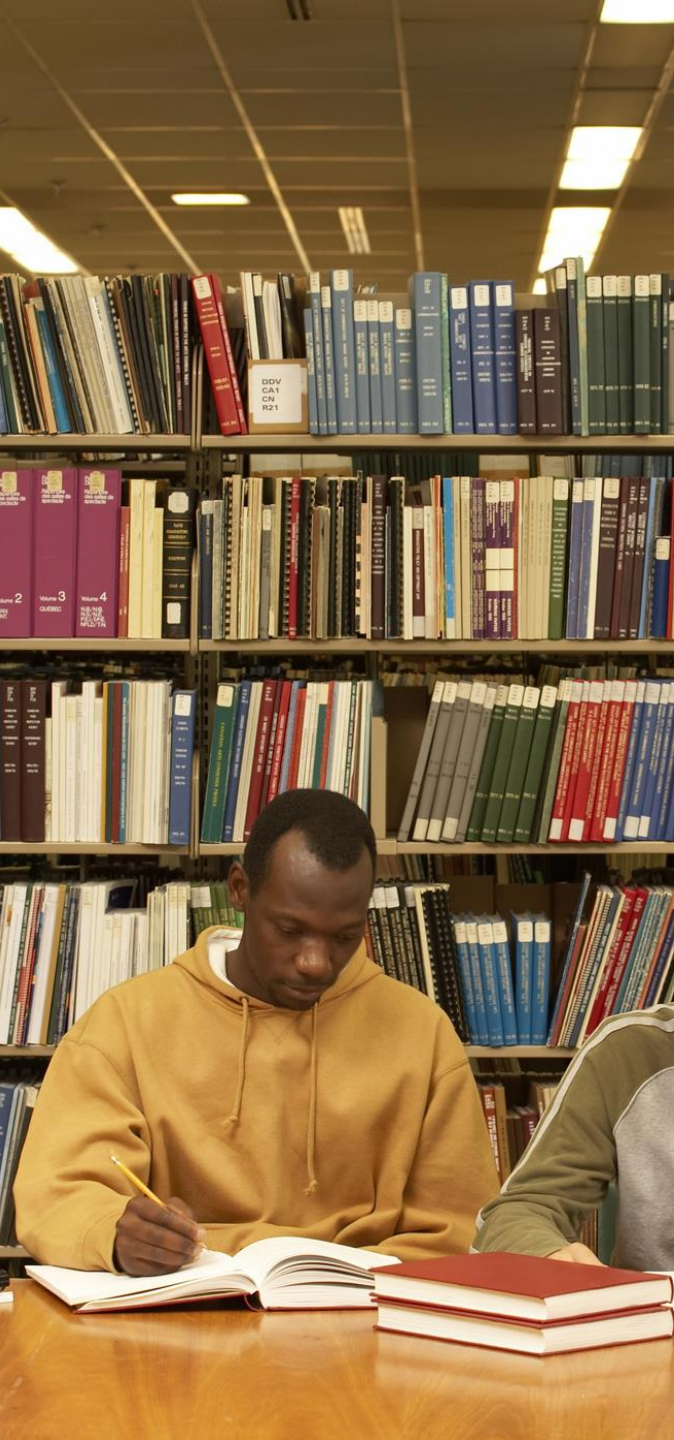
Enabling access to faculty, professional and amateur researchers alike

Creating digitized modern experiences

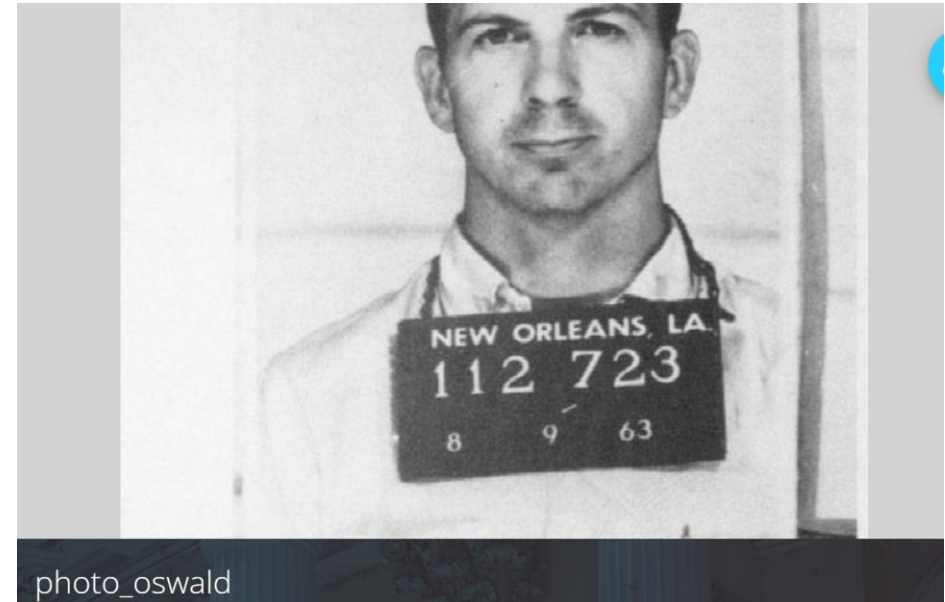
Supporting AI based tagging, digitizing and imaging of museums and library assets



Cognitive Search



Documents revealed.
Let's find out what happened that day.



photo_oswald

at 6:00 p.m. (see previous section) At that time her pertinent statements
about the assassination and Lee Harvey **Oswald** were written down
by the Mexican government and Sylvia signed the statement. They
^{Separate} were Upon learning about the assassination she and her husband

Hololens application, designed by users



RIJKS MUSEUM

Education and Learning Tools



Develop strong workforce development programs with technology leaders

Provide your constituents with latest learning programs and curriculum developed by the industry leaders, including AI and Data Science

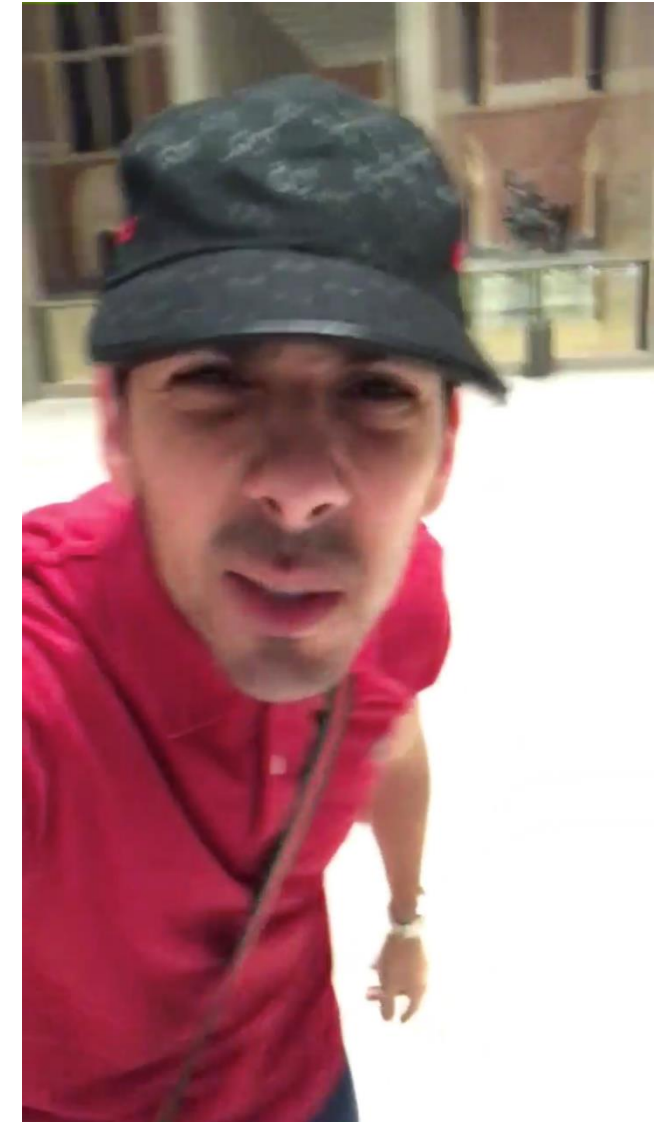
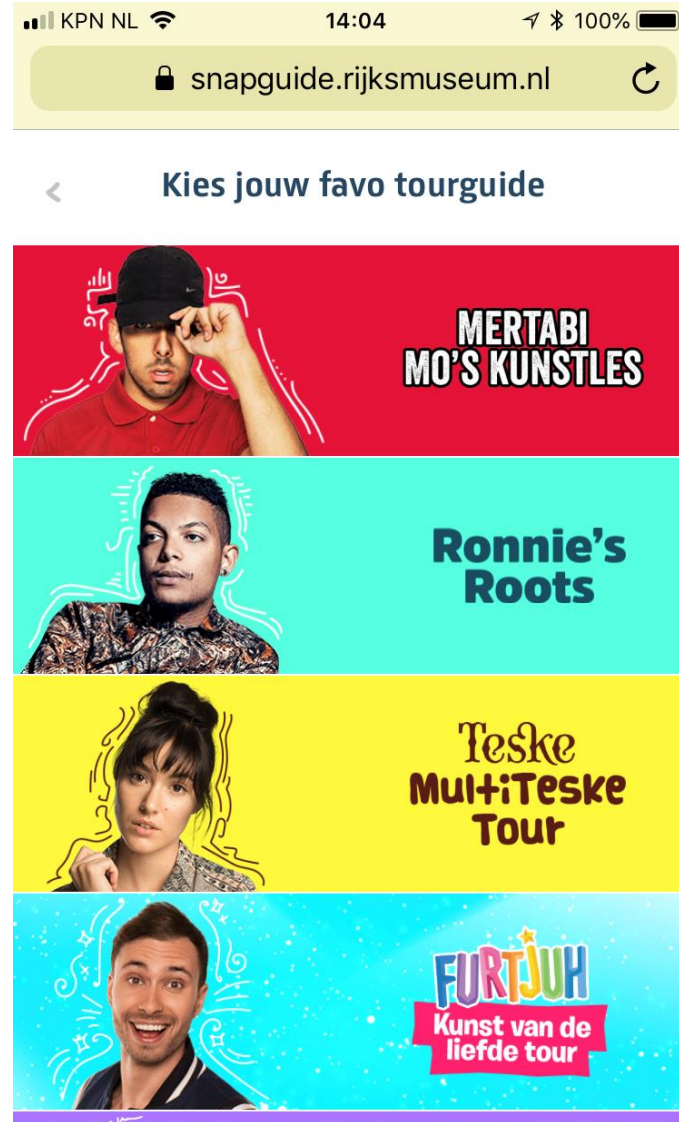
Create unparalleled learning experiences

Reach and engage audiences in new ways utilizing modern digital technologies

Leverage state of the art technology platforms instead of creating expensive custom solutions

Expand your reach and re-use content across institutions thus optimizing your resources

SnapGuide is a brand new free education tool on your smartphone for secondary education students



CHE COSA é MINECRAFT?

Minecraft è...

Pensate ai Lego.

Digitali.

Con infiniti pezzi.

In un infinito spazio.



Raffaello in Minecraft



Operational Effectiveness



Modernize Workflow Management

Ensure key institutional management systems are running effectively, talk to each other and yield new insights and efficiencies

Optimize Finance / HR / Marketing

Leverage existing platforms and best practices across other industries to help you manage day-to-day operational functions

Streamline Fundraising and Grant Management

Optimize capital campaigns, donor programs and manage grants through latest relationship management tools

Update Ticketing and Lending Experiences

Empower visitors and constituents with self-serve options, recommendation engines and integrated experiences

Beyond the Walls



Find new ways to engage new audiences

Dramatically expand your audiences and engagements by reaching people who may not be able to visit your building

Establish new engagement experiences and channels

Leverage emerging technologies to enable a multi-channel visitor or constituent experiences

Build new Business Models

Reinvent how constituent engage with the museum. Build new virtual reality experiences that maximize collections and wow and inspire beyond the limitations of the size of your building or visitor's geographic locations

MET+
MIT+
MICROSOFT

Open Access Platform (2017)



Siamo nel bel mezzo di un rinascimento in questo momento, con l'IA che unisce arte e scienza in un modo che permetterà ai visitatori online di sviluppare una connessione più profonda e più personalmente rilevante con l'arte.

Maria Kessler, Senior Program Manager per le partnership digitali, The Met "

MY LIFE, MY MET



My Life, My Met

My Life, My Met turns an Instagram feed into a work of art. Still in development, the concept is to have AI analyze Instagram posts and substitute the closest matching artworks from The Met's Open Access collection.

[See the concept](#) >



CMA
Cleveland
Museum of Art

Open Access



"With Open Access, the museum makes its collection of art from all periods and parts of the world easier to access and more relevant to the public".

William Griswold, Director, Cleveland Museum of Art

Smart Buildings and Security



Safety and Security

Ensuring security of visitors, staff and collections

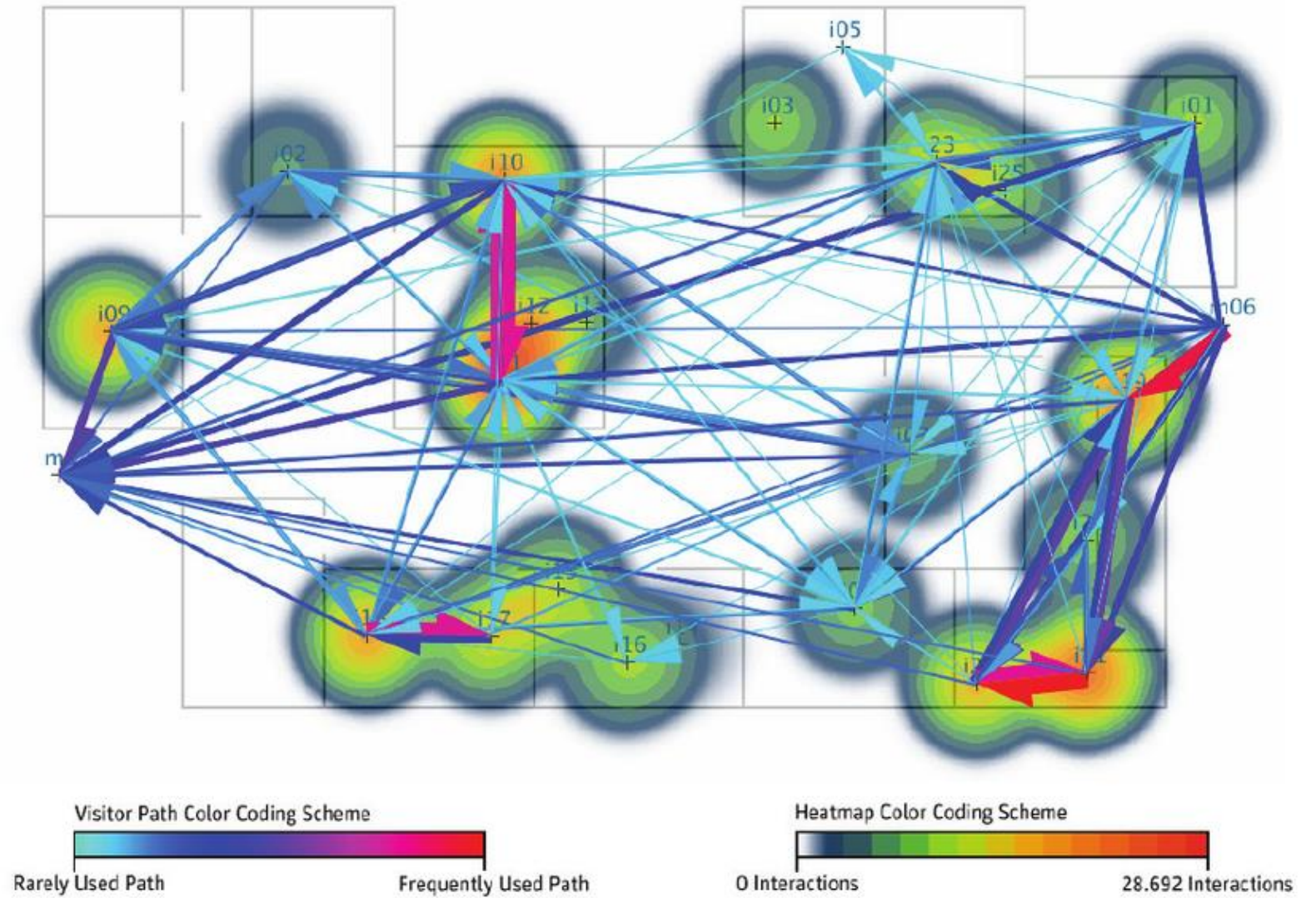
Energy Management and Collections Maintenance

Managing energy consumption and maintaining optimal exhibit/collections environments

Traffic Flow Management

Moving crowds efficiently and creatively

Traffic Flow Management



New Buildings and Construction



Optimize Building Design and Management

Generate and manage digital representations of the building and processes as you plan, design, construct, operate and maintain new buildings and spaces

Infuse Emerging Technologies

Begin with the future-ready technologies such as VR/XR/MR, voice, motion detection, touchable interactives, holograms and fully immersive personalized displays

Build with Efficiency and Sustainability in Mind

Reduce the overall impact on the environment on human health, natural environment, reduce waste and improve employee productivity

Data-Driven Decision Making



Become more informed

Make decisions and driving strategy based on data to augment your cultural experience

Leverage Data Lakes

Aggregate data from multiple inputs across both, physical and digital channels

Take business intelligence to the next level

Begin with basic dashboarding tools and expand into sophisticated data analysis that drives deep insights



British Museum harnesses big data to analyse visitor trends



By Sean Dudley on 13 July 2017



"...in partnership with Microsoft, the British Museum is now using big data analysis to provide its visitors with pertinent information in the right place at the right time, and in the right language."

Visitor Engagement and Connected Experience

Build connected physical/digital multi-channel experiences

Incorporate wayfinding, digital and personalized experiences and social media interactions for your visitors and constituents

Leverage technology for exhibition development

Gain insights into decision making about building, scheduling and sharing collections and exhibits

Provide powerful e-reader solutions

Expand the reach and engagement via digital platforms and improve the flexibility in relationships between libraries and publishers



Visitor Centered approach

Key touchpoints for digitally transforming the museum visit experience.



Part 1: Planning a Visit

1. Getting Information
2. Planning a Tour
3. Planning Logistics
4. Purchasing a Ticket
5. Arrival in Museum



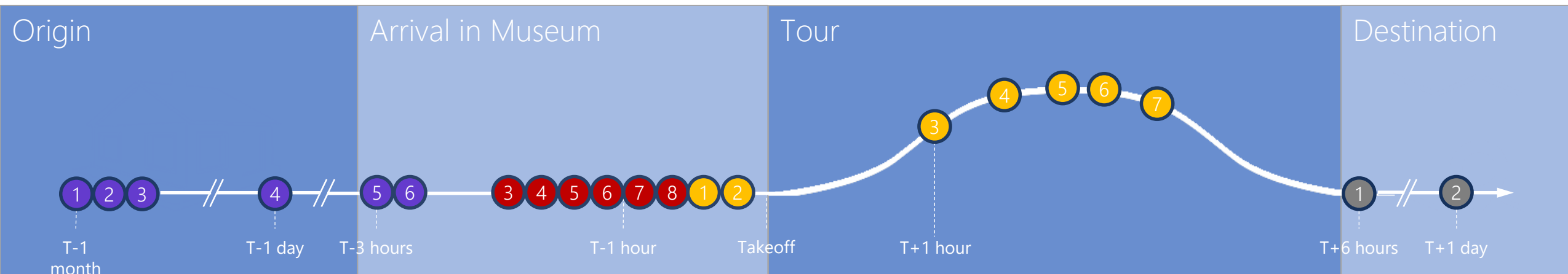
Part 2: Museum lounge

1. Receive Audio/Visual Support
2. Start Tour
3. View planned program
4. Adjust for New Exhibition
5. Purchase products

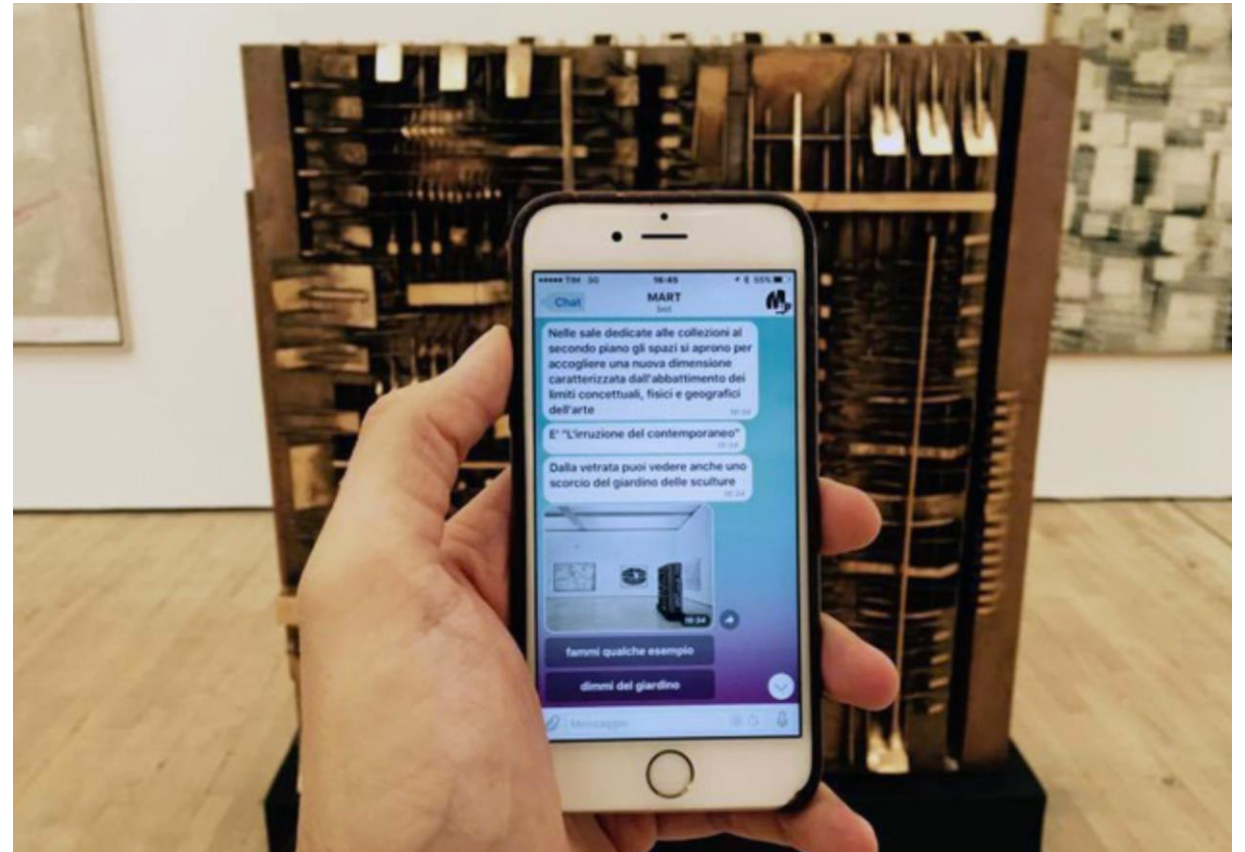


Part 3: Post Visit

1. Review Media experience
2. Share Experience with Others
3. Share Feedback on Tour



Chatbot per far parlare il Museo o la Storia



Mixed Reality Museum in Kyoto: A unique insight into centuries-old Japanese artwork



10th million visitor – spent the night in
the Night Watch Gallery

RJKS MUSEUM



Pan Institutional Collaboration and Aggregation

Aggregate data and collections across museums and branches

Enable collaboration across locations, branches or entities




Manage user identities

Securely enable and manage access to relevant parties

Share relevant data securely (or don't)

Decides who needs access to what data



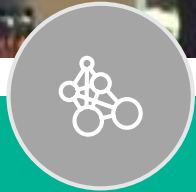


MICROSOFT TECHNOLOGY IN DIGITAL TRANSFORMATION

Museums and Libraries

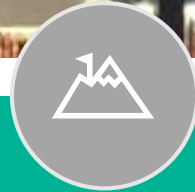
The AI Transformation

Applicable in Museums and Libraries Scenarios



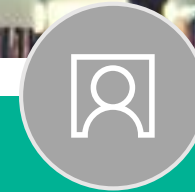
Digital Agents

Transform your engagement with customers and employees



Intelligent Apps

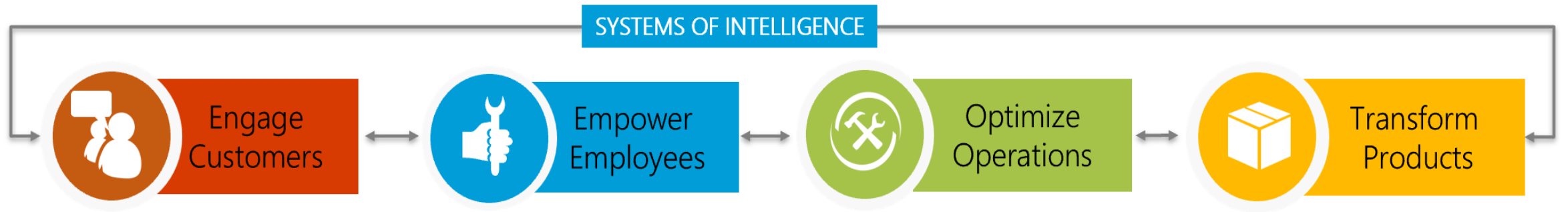
Leverage AI to create the future business applications



Business processes

Transform critical business processes with AI

Digital Transformation Framework



Industry Trends*

SYSTEMS OF INTELLIGENCE



Engage Customers

- **Infotainment** (apps , omni channel access for ticketing , check main attractions and events.
- **Visit Personalization tools** for the museum visit experience allowing visitors to plan journey through exhibits to their preferences.
- **VR/AR and Wearables** for allowing museum visitors to interact with their environment and exhibits more naturally as well as create **virtual tours & guides**
- **iBeacon** based indoor navigation through mobile devices.
- **Social media integration** and sentiment analysis.
- **Post visit consumer engagement** with content and offers for repeat visits.
- **Live stream events** to generate new audiences by intrigued them with viewing performances online beforehand.

Empower Employees

- **CRM integration for marketing** – run analytics on visitor data to arrive at visitor trends , New vs returning, age group, gender, visitor interest areas.
- **Analytics for exhibit performance evaluation** based on sentiment analysis of customers visiting the museum based on the social feeds.
- **Big Data for exhibit planning** analyzing dwell times, movement, visitor reactions.
- **Wearable based employee tracking** with a real time dashboard based on the smart band details from each employee using the GPS in the band.
- **AI based Image recognition** to recognize crowds near exhibits and make real time crowd management recommendations.

Optimize Operations

- **AI based security and monitoring** extensive areas and galleries through image processing and pattern recognition.
- **IoT based condition monitoring** of temperature and humidity near sensitive exhibits like paintings.
- **Collection digitization** to prove ownership in case of theft.
- **AI can keep track of and interpret mass amounts of information** in a way that is useful to modern museums as archives expand.

Transform Products

- **Crowdsource community ideas** to involve audiences with the exhibit , tour and events panning .
- Special immersive tours like Bronze age immersion - **through VR headsets**, as well as virtual lectures from professors and historians.
- **Experiential marketing** for bringing the whole museum experience to life
- **“Chatbots of historical figures, primed by published writings, archives, and oral histories** could engage with visitors inside the museum, and reach outside the museum to put history in the hands anyone who owns a smartphone.”

DIGITAL TRANSFORMATION

Museums are embracing new technologies to better understand their audience and create a broader, more engaged customer base.

*Fonti

INSEAD Knowledge - The Digital Transformation of Museums

<https://knowledge.insead.edu/blog/insead-blog/the-digital-transformation-of-museums-6851#swGSs2WmSOJsE51U.99>

The status of digital transformation in the museum industry

<https://alm.axiell.com/digital-transformation-museum-industry/>

Digital Transformation in the Museum Industry – Museums and Galleries of NSW

<https://mgnsw.org.au/sector/resources/online-resources/digital/digital-transformation-museum-industry/>


Digital Transformation in the Museum Industry MUSEUMS REPORT 2016

<https://alm.axiell.com/wp-content/uploads/2016/07/Axiell-ALM-Digitise-Museums-Report.pdf>

Envisioning Future Scenarios - Museums

 Engage Customers

 Empower Employees

 Optimize Operations

 Transform Products

Priorities





- Increase visitor footfall and return frequency.
- Deliver immersive experiences and engage with knowledge.
- Adapt to newer consumer expectations.





- Enable employees to better plan exhibits
- Manage information for museum exhibits and collections.
- Ability to share and communicate across extensive museum locations.





- Manage priceless collections and exhibits
- Optimize datacenter and Infrastructure costs.
- Plan and expanding exhibits as per current trends.




- Position Museums as learning and recreation pioneers.
- Being relevant in the information age.

Scenarios to focus by Museums

-  Virtual, Augmented and Mixed reality systems create an immersive digital learning experience for visitors to travel to exhibits in time and immerse themselves in the subjects
-  AI based Personalization tools for visitors to plan journey through exhibits to their preferences.
-  iBeacon based navigation and alerts and notifications pointing to rich multimedia content for interested visitors near an exhibit .
-  Use Analytics for Visitor experience management/exhibit planning/tours planning by understanding dwell times , reactions , comments and debates.

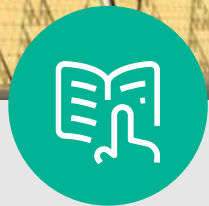
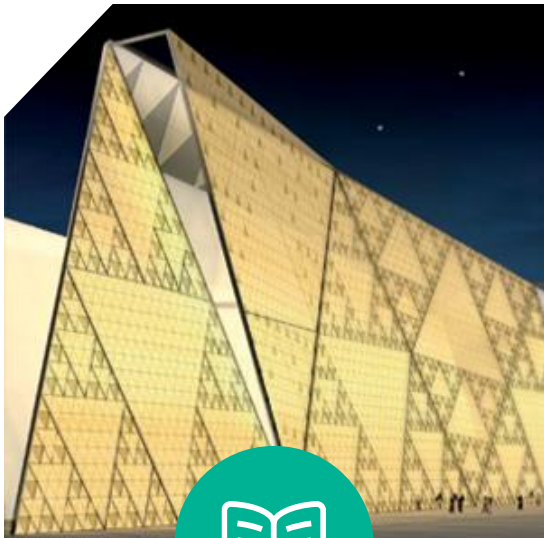
-  360 degree visitor view with Facebook registration , social sentiment , purchase histories, trip details to gain the voice of the customer for optimized marketing efforts and spends.
-  Analytics for exhibit performance evaluation based on sentiment analysis of customers visiting the museum based on the social feeds
-  AI based Image recognition to recognize crowds near exhibits and make real time crowd management recommendations
-  Wearable based employee tracking with a real time dashboard based on the smart band details from each employee using the GPS in the band.

-  Information and collection curation using ML. Machine vision adds metadata to identify and tag images, and an algorithm maps the collections.
-  Transition the institutes to modern cloud management to a faster, secure and more innovative environment
-  IoT based condition monitoring of temperature and humidity near sensitive exhibits like paintings.
-  AI based security and monitoring extensive areas and galleries through image processing and pattern recognition.

-  Create a digital platform for Crowdsource community ideas to involve audiences with the exhibit , tour and events panning .
-  Special immersive tours like Bronze age immersion - through VR headsets, as well as virtual lectures from professors and historians.
-  AI to track and interpret mass amounts of information in a way that is useful to modern museums as archives expand. It can also authenticate museum contents by identifying fakes and forgeries.

CASE STUDIES

Enabled by our partners, our customers are doing amazing things around the world. Here are just a few examples of how museums and libraries are embracing technology to drive Digital Transformation, empower their employees and delight their customers.



Grand Egyptian
Museum



Cleveland
Museum of Art



Metropolitan
Museum of Art

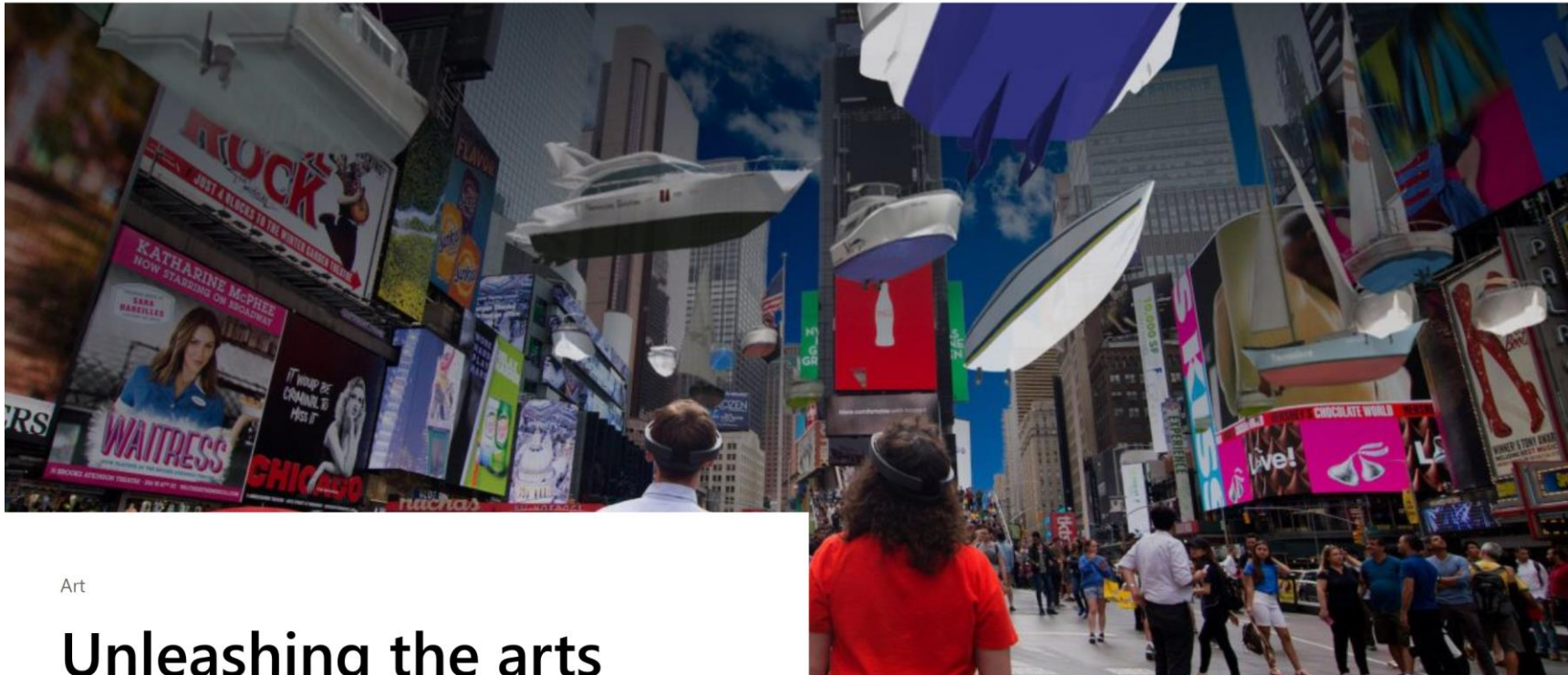


British Library

Microsoft in Culture

<https://www.microsoft.com/inculture/>

Microsoft | In Culture Arts Fashion Music People Social good Sports Explore All Microsoft



Art

Unleashing the arts
through new
experiences

AI for Cultural Heritage

<https://www.microsoft.com/en-us/ai/ai-for-cultural-heritage>



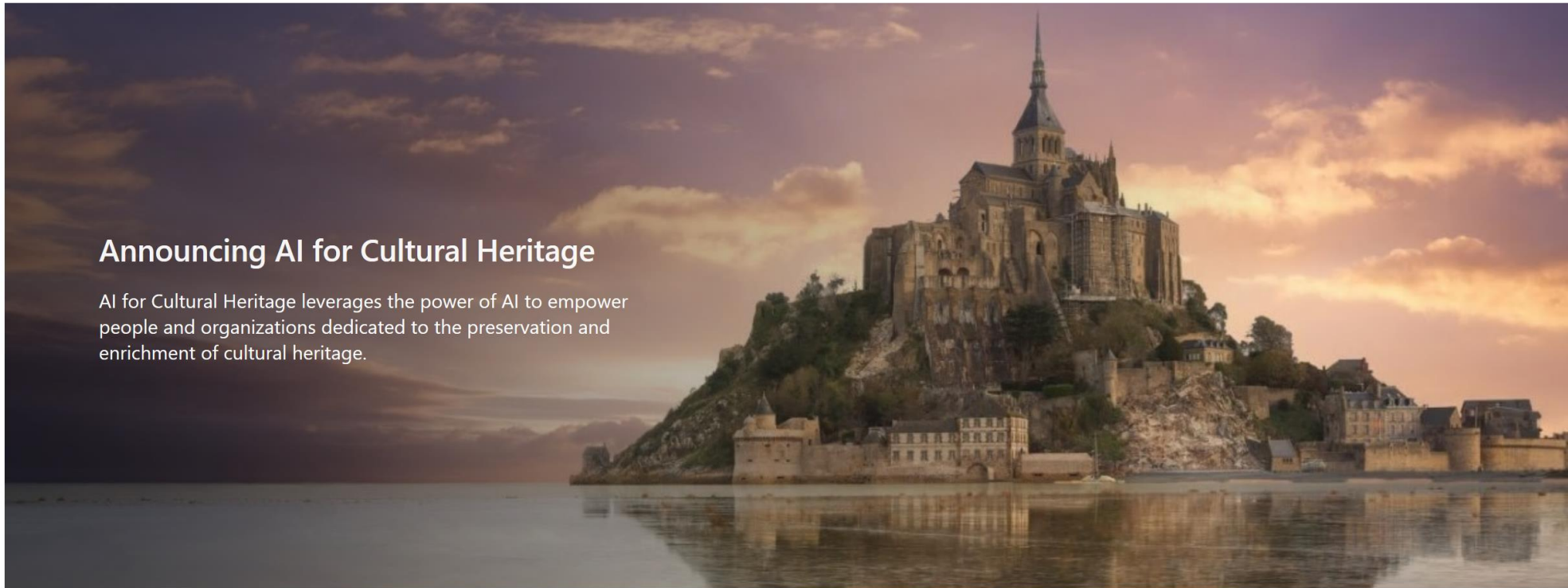
AI Products & Services ▾ Approach ▾ AI for Good ▾ Learn ▾ Blog

All Microsoft ▾



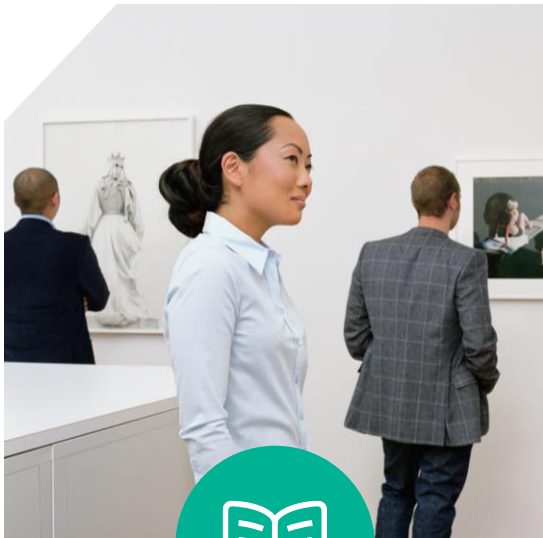
Announcing AI for Cultural Heritage

AI for Cultural Heritage leverages the power of AI to empower people and organizations dedicated to the preservation and enrichment of cultural heritage.



10M\$ in 5 years

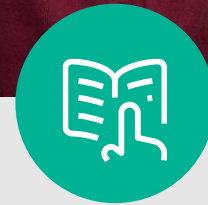
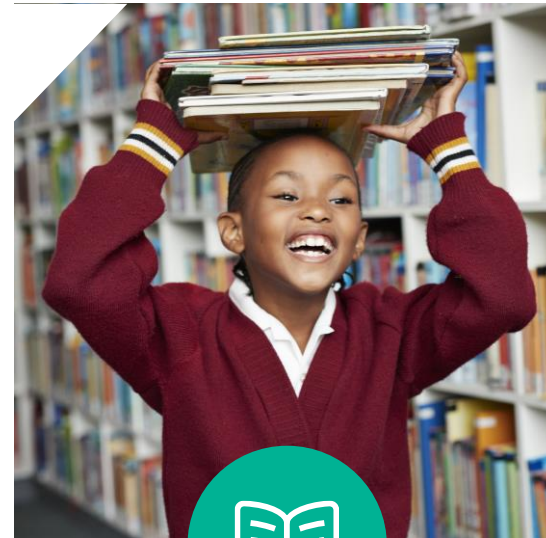
to use artificial intelligence to tackle some of society's biggest challenges



People



Places



Languages



Historical
Artifacts



GRAZIE!

Giuseppe Della Pietra
gidellap@microsoft.com

 gdellapietra

 [linkedin.com/in/giuseppedellapietra](https://www.linkedin.com/in/giuseppedellapietra)