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**Towards a MAP Digital Transformation Strategy**

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## **Note by the Secretariat**

The development of a UNEP/MAP Digital Transformation Strategy allows to better harness technology and innovation to deliver more and better results to achieve the overall objectives of the Barcelona Convention. The strategy will also provide a better understanding of the potential of digital technologies, articulate their use and value. This will also aim at fostering new ways of collaboration with Contracting Parties and partners, creating environments and systems that drive and support innovation, building new capabilities to develop and apply digital solutions that will enhance the quality, efficiency, and effectiveness of work.

A fully implemented digital transformation will connect knowledge within MAP system and across networks of partners to come up with better ideas. Digital transformation will include increasingly effective ways of working with the use of digital technologies to communicate, engage and advocate, and to build and maintain partnerships.

Our world is digital, and we expect technology to work for us, seamlessly. Most of the time it does. Our smartphones carry all the data needed to be productive all day long, from word processing tools to weather forecasts. But it's when technology doesn't work for us that we feel its absence the most.

These emerging technologies have the potential to step forward MAP System and lead to greater development impact. Indeed, many technologies are already being used throughout various programmes and initiatives, but it is important that UNEP/MAP can leverage existing and emerging technologies in a structured and organized manner in order to become more efficient.

## Towards a MAP Digital Transformation Strategy

### Digital Transformation: main concepts

Digital technologies are increasingly transforming societies, economies, public and private sector organizations, and individuals across the globe. The rapid pace of change and the far-reaching scope of it also means that digital technologies emerge and sometimes disappear quickly. Digital technologies are rapidly changing in availability, accessibility, and impact.

Digital transformation is a comprehensive and ongoing process and not simply an Information and Technology issue. It involves creating and maintaining an environment in which people are comfortable in engaging, interacting and integrating ideas that are free-flowing.

Digital transformation **is not a product or solution to be purchased**, but it affects everything IT involves. **Digitization** and **Digitalization** are two important inter-related concepts that have to be taken into account.

**Digitization** is the process of converting physical information into digital formats. It is commonly driven by technologies which focus on enhancing efficiency by automation of existing processes.

**Digitalization** is the use of digital technologies to change an organization's business model, including creating new or improved ways of delivering services and improving the quality of what is delivered.

Three primary requirements for successful Digital Transformation are needed.

- ⇒ digitized information is complete, relevant and correct
- ⇒ process selected for digitalization has the potential for maximizing returns on investment
- ⇒ learning and relearning of needs and practices is institutionalized throughout the organization

These three requirements rest on the organization ability to learn, unlearn and relearn through effective implementation of **knowledge management** processes.

Linkages between **MAP Digital Transformation Strategy** and **MAP Knowledge Strategy** are clear: a knowledge management strategy supports digital transformation processes and an increase of knowledge management maturity levels produce desired results in digitalization aspects.

Knowledge Management involves the efficient handling of information and resources within an organization, which is an integral part of digital transformation. Managing knowledge provides clarity on the best means of acquiring knowledge, the mechanisms for producing new knowledge and how the learning process is undertaken is integrated into practice.

It is crucial to understand that digitization and digitalization enable digital transformation. Whilst these processes may have high cost, they may not be sufficient for digital transformation to occur successfully. What is pertinent is to first acquire knowledge on what information needs to be digitized and what processes need to be digitalized and when.

This knowledge is acquired from experience available by experts or through knowledge sharing techniques with relevant parties concerned. Managing knowledge assists in identifying what to digitize, and how to digitalize optimally. This reduces the costs associated with digital transformation.

In conclusion, the digital transformation process is an ongoing voyage of discovery of new ways to meet the ever-evolving demands of digital users.

### **Which digital transformation for the MAP System?**

The present document provides the first elements and the general framework for a proposal for a **MAP Digital Transformation Strategy** to be developed during the biennium 2022-23. The MAP Digital Transformation Strategy will take into account what already defined by the UNDP Digital Strategy, UNEP Digital Transformation elements and the unicity of MAP System.

After all, INFO/RAC and all the MAP System have the responsibility to answer to users more and more digitally conscious than ever and comfortable with multiple devices to interact.

### **Main Digital Transformation Objectives**

One of the main objectives is using digital technologies to improve partner experience and solve development challenges by applying digital technologies and solutions in MAP key activities through:

- ✓ **Re/define digital delivery models**

Use digital technologies to optimize and streamline current policy and programme delivery models to include digital options that partners and users find easy to access, simple to understand.

- ✓ **Enhance digital co-creation and collaboration models**

Use digital technologies to experiment with new digital development partners and build platforms for the digital co-creation of solutions. Through this we expect to learn from - and be informed by - those we work with.

- ✓ **Improve digital partnership, engagement and advocacy**

Improve partner relations and advocacy efforts through digital technology, increase digital and social media and improve communications.

Relevant and engaging digital content is produced for partners, organizations and the public, and support campaigns that use several **digital communication channels**. Data from the website and social media is used to better understand those who use them, and supports **data driven advocacy**.

Another main objective is using digital technologies as support for knowledge management to develop and connect knowledge inside the organization and throughout its networks by organizing information and sharing what works and what does not.

- ✓ **Unleash knowledge within MAP System**

Systematize existing knowledge to achieve greater value by cataloguing, connecting, and sharing information. An integrated knowledge management system enables user-friendly and easy access to knowledge and insights for future development work. A central and up-to-date knowledge hub with clear knowledge ownership rules will be established.

- ✓ **Use the power of MAP data**

Strengthen data quality, usage, and availability to ensure the MAP role of most authoritative voice in the environmental protection for the Mediterranean region, combining and applying existing data for better development solutions.

✓ **Leverage digital to increase cost effectiveness**

Increased cost effectiveness and improved quality of management is achieved through **digital automation, self-service and other technologies**.

A digital architecture for the MAP System will allow **flexibility, scalability and reuse** which is cost-effective and meets users' needs. This can happen because of the use of IT solutions such as "containers", "virtual machines" and "cloud services".

Nowadays Clouds, apps, and solutions-as-a-service require new types of storage, analytics, automation, and management. One innovation leads to another. New technology leads to process improvements which lead to better products and services. Then users demand even more improvements because they've grown accustomed to certain experiences in our daily lives.

Digital technologies, such as cloud computing or data analytics, analyze and convert digitized data available and use them to further refine activities or processes. They enable digital transformation. The usage of cloud computing that houses vast reservoirs of knowledge to seek solutions instantaneously is an example of digitalization. What is needed is an organically driven integration, starting with an activity or process that provides maximum potential for generating positive returns. This integration is continued gradually until the digital transformation is complete.

### **Hardware vs Cloud**

*IT infrastructure is the primary digital transformation disruptor. Physical server led to virtual servers, which led to networks, which led to cloud services, which led to today's hybrid environments.*

*One of the biggest ways that cloud computing saves businesses money is by **replacing the traditional system** of adding hardware to server rooms. Instead of purchasing expensive hardware and installing it on-site, **data use or storage services** can be simply ordered up through the cloud, paying temporary access fees. This revolutionary model has spawned terms like software as a service (SaaS) and platform as a service (PaaS), where vendors tout the convenience and cost-efficiency of these kinds of arrangements.*

*Another big component of cost-saving with cloud computing services relates to what's called "**on-demand service**" which is supported by cloud principles like rapid elasticity. Because many cloud computing systems serve multiple tenants, they can add or subtract resources from a client account quickly and easily, without a lot of costs.*

*The current UNEP/MAP **Data Centre** developed and managed by INFO/RAC is a private environment that is set up and developed on-demand, such as a form of "private" cloud.*

*Moving to a hybrid solution of the IT infrastructure is the next step to achieve. A **hybrid cloud** is a service that combines public cloud solutions such as IaaS and PaaS, with the private cloud running on UN current datacenter with physical servers on-premise on a virtualized environment.*

*Both the **public and private cloud**, can work independently and are connected as needed. Thus, when data needs greater flexibility and customization, it is directed to the private environment. While data that is less sensitive or needs to have some information exposed, or shared, is stored in a public environment. Thus, the*

*IT specialists are not limited to providing greater security for its information and can work with both infrastructures more flexibly.*

*By associating a private cloud with a public cloud to form a hybrid infrastructure, MAP System can use only certain services and deploy only certain workloads selected upstream in the cloud. For example, it is possible to choose to deploy a critical workload, with strong security requirements or compliance to a private cloud. This gives the total control over the infrastructure and the software stack.*

*Despite these facts, there is no risk of intrusion between neighbors on a public network, but misuse of the infrastructure contracted by another company can put us at risk. One can be as a successful attack on the main server opens a breach for each client's system. So, investment in cybersecurity is a must and never be underrated.*

*Embracing digital is a long-term strategy, not a short-term tactic. It must involve a lasting cultural and technological change to bring lasting organizational and business success.*

## **Conclusions**

This document provides an overview of digitization, in a broader sense, and its potential support of MAP activities. Over the next two years, the challenge will be to identify the process that best suits UNEP/MAP and to choose the solution with the best cost-benefit ratio.

The MAP Digital Transformation is a process that will be started moving from the elaboration of a clear state of the art of the current situation and from an analysis of the potential of the MAP System.

MAP's digital transformation strategy will be developed over the next two years in close collaboration with MAP CU and MAP components to bring the MAP System into the new era and make the Mediterranean Sea the testing ground for a digital transformation.

## **Glossary**

### **Chief Digital Officer (CDO)**

In an organization the CDO is a senior leadership function that should adopt the business model by building up digital capabilities. She or he brings expert technical knowledge and is an effective generalist.

### **Digital Channel**

A digital channel is a form of communication that is based on technology. Thus, it enables a more transparent and direct communication between an organization and selected stakeholders (e.g. partners). It even permits a two-way communication (e.g. feedback).

### **Digital Objective**

A digital objective is a specific goal that the Digital Strategy aims to fulfil. It directly links to one or more overarching organizational goals and is measurable.

### **Digital Vision**

A digital vision serves as guidance to derive measurable goals and to formulate a suitable strategy focused on digital inclusiveness.

### **Digitalization**

The term refers to the use of digital technology to adopt fundamental ways of doing business and the business model.

### **Digitization**

The term refers to the use of digital technology for the process of converting physical information into digital formats to achieve efficiency gains.

### **Internet of Things**

The Internet of Things are networks of devices, vehicles and home appliances that contain electronics, software, actuators and connectivity which allows these things to connect, interact and exchange data

### **Platform**

Platform is a group of technologies that are used as a base upon which other applications, processes or technologies are developed.