



Extended
Monaco

Smart Principality



3 / Preface by HSH Prince Albert II of Monaco

4 / Monaco in a digital world

6 / Enhancing an already exceptional quality of life

13 / Inaugurating a new cycle of economic prosperity

18 / Boosting the value of the civil service



Preface by HSH Prince Albert II of Monaco

For over seven hundred years, the Principality of Monaco has been able to develop, reinvent itself and meet the challenges brought by major global developments in order to preserve its independence and prosperity.

Today we face a new challenge, that of the advent of digital technology, which is redefining the international equilibrium, transforming our economies and having a far-reaching impact on society. Digital technology impacts the behavior of the individual, regardless of his status. It challenges our perceptions, renews our ideas, and is causing profound transformation for all of us in all aspects of our lives. Governments must seize the opportunity of these upheavals to give them positive meaning, to improve their public policies and to develop and reposition their economies.

As an attentive observer of the changes in our world and its environment, I have become convinced that this revolution is irreversible, and of the need to bring my country firmly into the digital age.

We must therefore equip the Principality with the necessary means to take its rightful place in this new world and to write the next chapter of our history, thereby perpetuating our uniqueness, which is more relevant than ever.

Monaco in a digital world is a country that derives a unique advantage from its size, namely the capacity to coherently transform its economic and social model.

Monaco in a digital world means making the most of all our talents, those of both our community and those of the men and women who come from far and wide to live, work and create wealth here.

Monaco in a digital world is also a model based on attention to the needs of all, on excellence of quality of life and the invention of new standards – a human-focused, ethical, responsible and secure model that is protected from the risks of digital excess.

Monaco in a digital world is the opportunity to start a new cycle of prosperity by boosting our areas of economic excellence, and also by creating new drivers of growth, particularly through the unprecedented opportunity of freeing ourselves from our territorial boundaries.

Monaco in a digital world is, finally, its entire community actively united in a single goal, that of finding our Principality a new place in this world, which is reinventing itself. This goal is backed by the “Extended Monaco” program.

Welcome to a responsible and sustainable digital model! Welcome to Monaco!



Our vision

Very high value created from a very limited space: a common feature shared by Monaco and digital technology.

Thus, for our Principality, digital technology is an unprecedented opportunity to perpetuate and extend its societal model, to make it ever more attractive and to further boost its international aura. The Principality has unique assets for taking advantage of the digital revolution: its size, its capacity for action and investment, and its brand.

Extended Monaco is unique. For the first time, a government is setting out to combine the best that digital technology can offer and to apply it simultaneously to all of its public policies and its economy. For the first time, a government is openly willing to form partnerships, whether with local actors or with giants of the digital world, offering them an exceptional demonstration showcase.

Distinctly Monégasque, this new model advocates a responsible and protective digital universe that is at the service of man. Monaco will be the place where progress is developed and financed, a Funding Nation for progress. The brainchild of ten major international digital technology personalities brought together by Prince Albert II, this vision has been taking shape over the last twelve months.

Created to benefit both Monégasques and those who choose the Principality as their place of residence, for their business or for tourism, it is based on three main priorities:

- **enhancing an already exceptional quality of life;**
- **inaugurating a new cycle of economic prosperity;**
- **boosting the value of the civil service.**

Although it has already achieved significant initial success, the Extended Monaco program will come into full swing over the next three years.

February 2018

Sovereign Ordinance appointing the Delegate and an Interministerial Delegation for the Digital Transition, made up of 120 persons.

September 2018

Over 600 people trained at Digital Workshops organized in partnership with Google.

November 2018

The Prince brings together 10 global digital technology experts to mark the launch of the Monaco Digital Advisory Council.

February 2019

Inauguration of the Campus to train Monaco's civil servants.

March 2019

Partnership with Clear Channel for the installation of connected bus shelters throughout the Principality.

April 2019

Announcement of the first ICO (Initial Coin Offering) approved by a stakeholder government

First Educational Digital Technology Summit (Assises du Numérique Éducatif).



May 2019

Tabling of the three key laws on digital transformation (Digital Principality, Digital Identity and Blockchain).

June 2019

Monaco's civil service becomes the most inclusive in the world with 100% of its civil servants and officials connected.

July 2019

Testing of the first self-driving shuttle services.

Summer 2019

Launch of 5G

September 2019

Monaco becomes the first country in the world where all kindergarten, elementary and high school students are taught computer programming.

Autumn 2019

Launch of the first version of the e-health platform offering online booking of appointments with healthcare professionals.

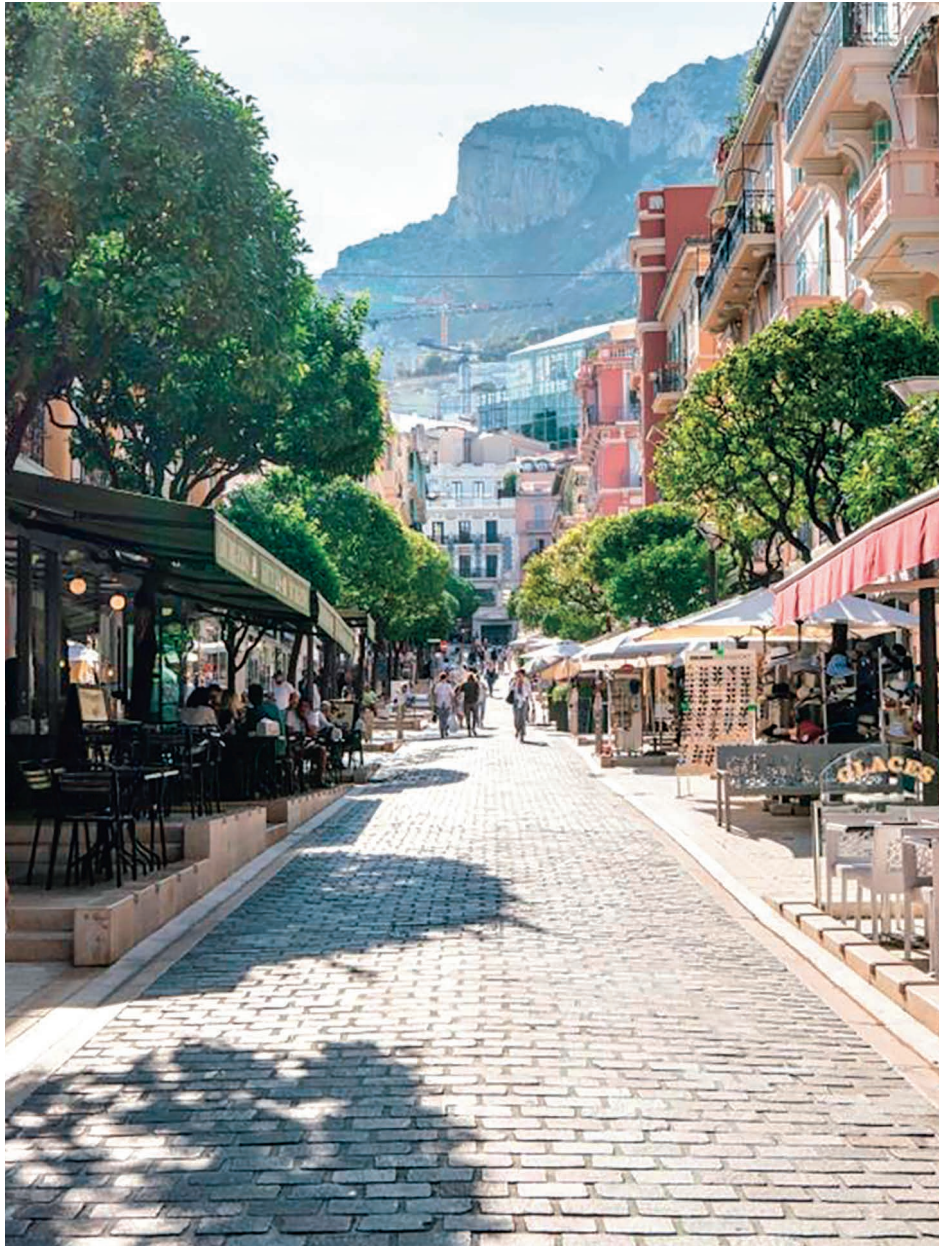
December 2019

Launch of Monaco's Sovereign Cloud and its digital twin, Monaco's e-Embassy in Luxembourg



Enhancing

an already
exceptional
quality of life



An interactive, fluid and pleasant living environment

Monaco's smart city aims to be coherent, user-oriented and in line with the highest international standards. It will further improve the experience of living in the Principality, thereby enhancing its attractiveness.

Between now and 2022, Monaco's Smart City will be focusing on three main objectives: building the final links in a first class, connected transport system, improving the living environment through interaction with its inhabitants and achieving better control of urban planning and major environmental markers.

Mobility

In terms of mobility, several initiatives will enhance the services on offer and improve information and traffic flow:

- connected bus shelters, fully functional digital reference points in the heart of the city, equipped with new services (Wi-Fi, environmental sensors, services for tourists and inhabitants, etc.);
- an application that helps residents, commuters and tourists to plan their journeys by viewing all the available transport solutions;
- a bigger range of shared electric bicycles, made accessible to occasional users;
- testing of self-driving electric shuttles for passenger transport.

And in the future?

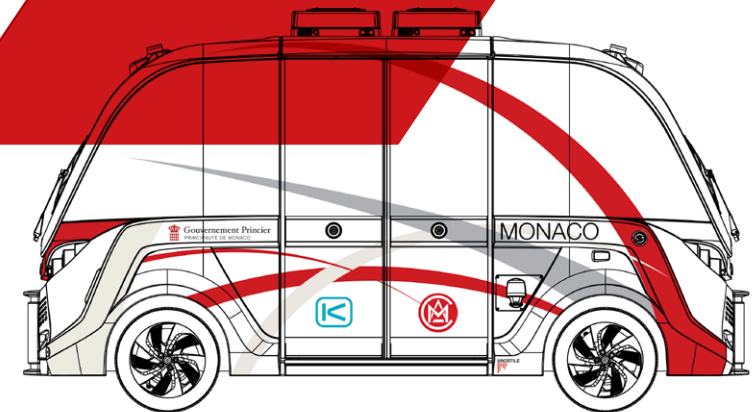
Improved mobility that increases quality of life by optimizing traffic during peak hours, by offering more shared, connected and ecological transport, and by providing better information for users and more efficient interoperability between modes of transport.

Relationship to the city

Digital technology will also be the key to offering local inhabitants a new relationship with their city. Looking beyond the online availability of information relating to the living environment from 2019 onwards, the "voice of the user" will be taken into account to make services more efficient: an application will collect and process feedback, thereby creating a continuous improvement loop. A digital platform for services between inhabitants (childcare, car-pooling, lending of items, etc.) will help to strengthen the social bond and create communities of interest at building, neighborhood or municipal level. It should also be used to roll out new initiatives such as citizen consultation.

And in the future?

Data capture and exploitation will be the essential foundations for the construction of a smart city. In the longer term, Monaco will have predictive capacity in key areas such as air quality, noise, traffic and energy consumption of buildings, through the development of "hypervision" tools and urban planning.



—

Cutting edge, easily accessible medical care

For Monaco, the use of digital technology in the health and medico-social fields constitutes an opportunity both to improve its health-care system by making it more patient-focused and to demonstrate its ability to offer a quality of life on a par with the best in the world.

—



3

PRIORITIES
for the successful,
inclusive and
responsible “
e-health” approach

Monaco boasts one of the longest life expectancies in the world, proof if it were necessary of the excellence of its health-care system. For the Monégasque health-care system, digital technology must be a driving force to boost the performance of its healthcare offer, and above all an opportunity to strengthen the links between patients and caregivers.

The idea for a “connected” patient is primarily to be a better-informed patient who has been reassured about their treatment and is more involved in their care pathway. The healthcare system will be “enhanced” rather than weakened, through the use of advanced interaction, collaboration, empowerment, digitization, detection, analysis and artificial intelligence solutions. The approach must be responsible in dealing with the digital world: by making digital technology work for human beings, ensuring that confidentiality is protected and by finding a balance between traditional personal contact and digital methods.

IMPROVING the patient experience

- Seamless interaction of patients with the health system (making appointments, access to their data).
- Patients in control of their own health (prevention and self-diagnosis tools).
- Unparalleled hospitalization experience (online check-in, personal services, monitoring of post-operative return home, supervision of home hospitalization).
- Digitization and streamlining of administrative formalities.

PRESERVING inclusive values

- Support for the elderly (monitoring or home hospitalization, supervision of hospital-to-home travel and vice versa).
- Assistance for the disabled (home monitoring, teleconsultation, travel arrangements).
- Preventive advice for young people (STDs, nutrition, school health).

PROVIDING healthcare professionals with the best digital solutions

- Easier collaboration between professionals (secure messaging, sharing of imaging, longitudinal tracking).
- Targeted use of telemedicine, starting with “e-prescriptions”.
- The use of artificial intelligence to enhance diagnoses and treatments.

And in the future?

The patient will be able to benefit from a seamless care pathway between outpatient and hospital treatment, with an emphasis on home hospitalization, practitioners assisted by the latest advances in artificial intelligence and the possibility of being kept perfectly informed of their situation.



Enhanced, personalized education

In digital technology, education, which is the cornerstone of Monégasque unity and identity, is finding new opportunities to demonstrate its excellence, thereby preserving its rank and attractiveness in an increasingly competitive global environment. A key investment for the Principality with the development of a new economy that relies more than ever on talent.

Based on diversity and personal contact, the Monégasque education system already excels in the traditional framework, thanks to inclusive, tailored teaching that is notable for its zero-dropout rate and exceptional quality of extra-curricular activities.

Much more than a mere “updating” of teaching methods, digital technology must help children to acquire the skills they need to succeed in today’s and tomorrow’s world. This is how Monaco’s education system intends to enter the digital age, while encouraging responsible use.

Enhanced education...

By 2022, digital technology will boost teaching capacity and communication at every moment of the school day, and also before and after class and during extra-curricular activities. Platforms – in particular a learning cloud – will forge new links between teachers, students and their parents. Digital tools will enhance content development, the personalization of teaching, interactivity and autonomy. New equipment will be available, making for a new learning experience in the classroom, the digital extension of the classroom and online availability of textbooks.

Thanks to the specific training available to students and teachers (programming, collaborative culture), Monaco’s education system will be more soundly anchored in a changing world. It will also have better analytical capabilities to ensure that it improves continuously.

... and a well thought out approach

Monaco’s digital strategy for its education system is based on a careful balance between the best of “face-to-face” and digital learning, and between digital and non-digital teaching methods. Great care is taken to prevent excesses relating to digital technology: specific initiatives will be put in place in 2019 to raise awareness, to monitor screen and radio wave exposure times and to combat cyberbullying.

Protecting confidentiality will be a perennial concern, with a level of data security that meets the specific requirements of Monaco’s population.

In Monaco, the educational digital technology approach is to be:

- global, reflecting all types of use and all infrastructure, equipment and human issues;
- a partnership based on a win-win relationship between technological partners and educational content providers;
- forward looking, because the approach can only succeed by getting teachers involved in setting targets and implementing projects.

Each year, the Educational Digital Technology Summit will help define, update and evaluate the portfolio of education-focused digital projects. This step will ensure a gradual and realistic deployment of the technology to anchor Monaco’s education system soundly in the digital age.



a week of computer programming for all kindergarten, elementary and high school students from September 2019 onwards

And in the future?

The implementation of the digital plan, in tandem with the latest innovations in artificial intelligence, will anchor the education system in an adaptive learning approach. In other words, offering its students personalized learning while fostering their development in a collective setting.

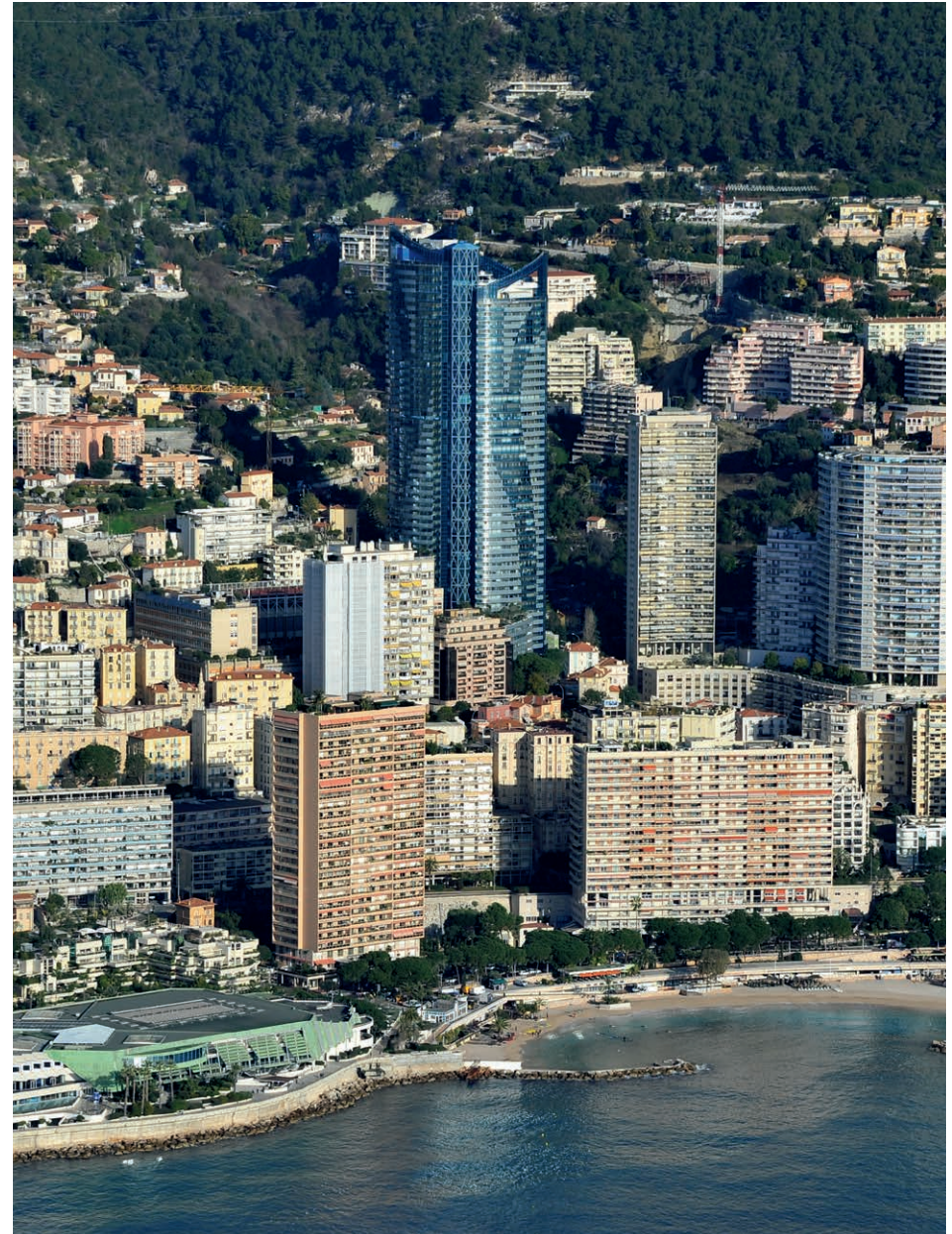

An aerial photograph of a coastal city, likely Dubai, featuring modern architecture, a waterfront promenade, and a large red diagonal overlay. The text is centered on the red overlay.

Inaugurating
a new cycle
of economic
prosperity



Digital technology, a driver of growth

Although Monaco has been able to maximize its economic potential in relation to its size, this is now clearly a limiting factor for its growth. By liberating Monaco from its territorial constraints for the first time, digital technology is an opportunity to embark on a new development cycle and to take a more prominent seat in the forum of global cities.



The Principality is basing its goal of digital-driven economic growth on three major actions:

Giving Monégasque companies a framework that is conducive to capturing all the potential of digital technology

- By equipping itself with large digital infrastructures such as 5G and fiber throughout its entire territory.
- By guaranteeing security and sovereignty.
- By adapting Monaco's legislative framework to facilitate the development of digital technology. Three laws in particular will be enacted during 2019, enshrining the blockchain, digital identity and digitization concepts.
- By adopting a Strategic State approach, with for example the Monaco Government initiating and driving digital technology-based economic growth initiatives, or attracting digital and industrial partners.

5G in 2019

During 2019, the 5G mobile network, deployed for the first time throughout a national territory, will be an extraordinary driver of new uses, economic development and attractiveness. It will multiply download speeds by 10, thus shortening connection times by the same factor. Simultaneous processing will be 10 times faster and will facilitate the unlimited use of connected objects.

Boosting and perpetuating its current economic model

- By contributing to the Principality's event strategy, for example by increasing the impact of key events such as the Grand Prix or the Yacht Show.
- By encouraging companies that enjoy a monopoly (SBM, SMEG, Monaco Telecom, CAM, etc.) to develop new services via digital technology.

Creating new, highly targeted growth drivers for the digital sector in the Principality

- By focusing on the technologies of the future in tandem with leading sectors in Monaco (Real Estate, Wealth Management, Luxury, Yachting, Sport, Business Tourism) via the creation of financing structures or the setting up of dedicated startups through Monaco Tech, Monaco's business incubator.
- Attracting innovative and ethical companies through new funding methods such as Initial Coin Offerings.



Guaranteeing security and sovereignty


As a mark of Monégasque excellence, security is a top priority – the same is naturally true of digital security. The Principality also has its own Cyber Security Agency (Agence Monégasque de Sécurité Numérique - AMSN) which applies the best global standards in this matter. For both security and sovereignty reasons, regarding the application of Monaco's legislative

framework on stored data, the Principality is set to announce the launch by the end of the year of a Sovereign Cloud solution for use by the Government and Operators of Vital Importance (OVI), an infrastructure that will also be of benefit to companies based in Monaco. Also with the adoption of the highest corporate security standards in mind, Monaco's Sovereign Cloud will have a digital "twin" in the form of an "e-Embassy" in Luxembourg.



Towards a progressive digital ecosystem in Monaco

With a clear view of its strengths and positioning, Monaco is developing a focused strategy to connect digital players and financing in highly promising areas, in line with its values of progress and responsibility.





Monaco's aim is to become a Funding Nation for progress, a global market where progress is developed and financed.

The Clean Tech field will be the first to benefit, with the launch of a dedicated investment fund during 2019.

In a given area, in addition to its investment capacity, Monaco offers an economic fabric made up of locally established companies and startups, investment funds, R&D entities and government services for leading digital giants and international startups. The Principality will thus be a "showcase" for business incubation and preview demonstrations of innovative projects.

Funding game-changing projects

With the development of blockchain technologies, financing projects through ICOs (Initial Coin Offerings) is becoming increasingly popular worldwide. Monaco is looking to encourage this method of financing innovation while protecting investors and supporting a crucial and important issue for the Principality: protecting the environment.

Before the summer of 2019, a bill will be tabled to legislate for these practices: issuances of tokens on a blockchain will require a mandatory label issued by the Minister of State. The criteria for obtaining this label include: the incorporation and establishment of a company in Monaco, disclosure of shareholders' details, description of the token, the governance of its use over time, and investor protection guarantees.

And in the future?

Monaco has set its sights on becoming the world leader of environmental ICOs, and is making this ambition a reality in 2019 with its first ICO to fund the production of the new documentary by Luc Jacquet, Oscar-winning director of *March of the Penguins*.

An aerial photograph of a coastal city, likely Monaco, featuring dense residential buildings and a prominent circular building complex on a hillside overlooking the sea. A large, semi-transparent red overlay covers the right and bottom portions of the image. The text "Boosting the value of the civil service" is centered over the red area in white.

Boosting

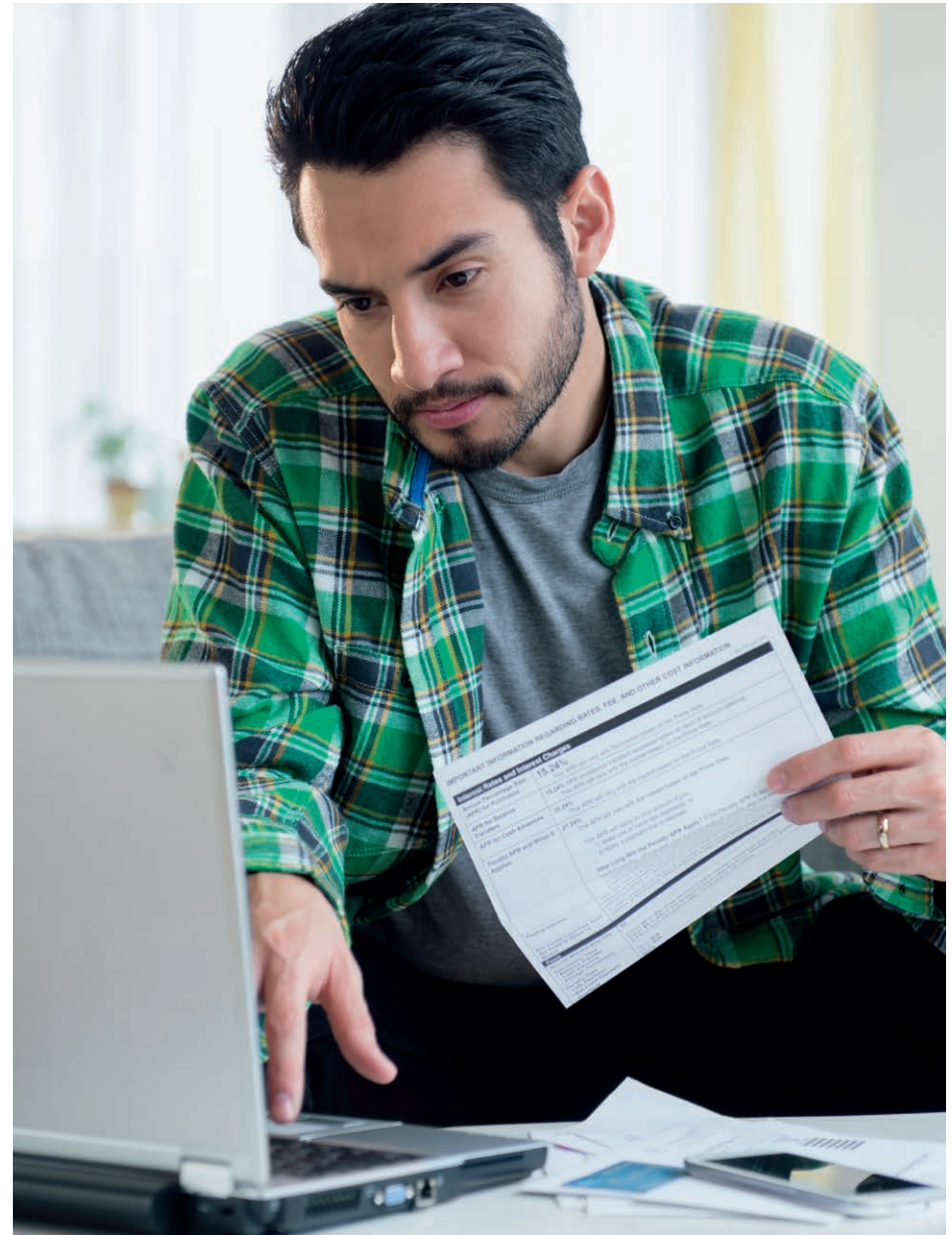
the value
of the civil service

—

The user at the heart of a first-class civil service

The digital transformation of Monaco's civil service is above all a response to a need: to improve inhabitants' experience of dealing with the country's administration, thanks to a faster, more convenient process and optimized use of their data.

—



Where many of its counterparts are forced to respond mainly to efficiency targets, Monaco's civil service is characterized first and foremost by the pursuit of service quality.

Focused on the user, and a rapid, personal the Principality's pursuit of excellence. Digital technology thus complements and strengthens a civil service that will continue to focus on forging a more personal physical link between its users and its officials. All teleservices will be accessible from a one-stop portal, some of them mobile where appropriate.

The Principality's digital administration will be based on four commitments to its users:

Flexibility

Citizens must be free to carry out as many procedures as possible online, simply and quickly, regardless of schedules or working days. At the same time, all of these procedures will remain physically accessible.

"Tell Us Just Once"

With the explicit consent of the user, the various government departments will be able to share information and documents concerning him or her, thus simplifying a large number of procedures.

Transparency

The user must be able to know the status of their request and when the service will be provided. They must also be able to find out who has viewed their data, and why.

Probative value

Recognizing the official validity of digital exchanges and documents will offer citizens and the civil service an opportunity to digitize most documents. The state will allow any citizen to use a digital safe with no obligation to keep paper originals.

And in the future?

Starting in 2020, Monégasques and Residents will be assigned a Digital Identity. This ID will be key to their authentication, and will offer them smooth, ultra-secure access to all remote services and to their digital safes, and will enable them to sign documents or confirm procedures. By extension, the digital identity may be used for services provided by authorized third-party Monaco companies (such as Monaco Telecom, SMEG and CAM). Lastly, digital identities will facilitate the implementation of electronic voting.

Target of
100%
of procedures, suitable
for digitization, achievable
online by 2022



A modernized, inclusive and sympathetic civil service

To offer this first-class public service, the Principality is building its civil service of the future. Beyond the modernization of its civil servants' and officials' working tools and methods.

With this first-class public service in mind, after modernizing its working tools, the Principality will focus primarily on the men and women in its civil service. It is betting on investing in their transition to a digital world.

The digital transformation of Monaco's civil service is based on three pillars:

Digitization

Working tools and methods will be more collaborative, ergonomic and appropriate for the tasks in hand. To be effective, it must redirect officials' efforts onto tasks with higher added value and divert their focus onto their direct relationships with users. In particular, the digitization of correspondence will bring about more intra-disciplinary and interdepartmental collaboration. As a knock-on effect of this digitization, the Principality's ecological commitments will benefit from the drastic reduction in paper consumption

Support and training for officials

Faced with the scale of transformation and progress over at least three years of its deployment, the Principality is committed to the continuous development of its officials' digital culture and skills.

Inclusion and well-being

All civil servants will be connected by 2019, and all will receive practical support. Convinced that it is a key factor in the delivery of a first-class service, training up officials and improving their working conditions are an integral part of the civil service's expectations for its digitization.



4,000

civil servants and officials trained in 2019 through the Campus



The Campus: all officials involved in the digital transition
 Since February 2019, Monaco's civil service has been able to rely on a new tool, key to its digital transition: the Campus. The result of a partnership between the Monaco Government and Monaco Digital, it

brings together coaches and HR and Digital experts with one goal: to enable Monaco's officials to assume ownership of the digital transition and become its ambassadors. In totally modular premises, they have access to training, co-construction and co-work-

ing spaces, and to a digital showroom and a studio for creating educational content. All civil servants and government officials will be able to receive training and attend collaborative workshops in the Campus by the end of 2019.





Extended
Monaco
Smart Principality