

# PAM Building at a glance !

06/2022

- I. Proud to be Saint-Gobain
- II. Saint-Gobain PAM
- III. PAM Building
- IV. Sustainability
- V. A comprehensive cast iron pipe offer
- VI. All our ranges
- VII. Case studies



**SAFE AND  
SUSTAINABLE  
BY NATURE**





# I. Proud to be Saint-Gobain

# Key figures

**167,000**

employees and over 100 nationalities represented

One of the **100 most innovative groups** in the world for 10 years

**350 YEARS AGO**

Saint-Gobain foundation

**1 000**

manufacturing facilities worldwide, operations in



Commitment: **carbon neutrality in 2050**

**€44.2BN**

2021 Turnover

**75** countries

**4,000**

sales outlets



**European or World leadership** positions in most of our businesses

**€4.51BN**

2021 Operating income

**8**

Major research centers

## OUR PURPOSE

Act every day to make the world a more beautiful and sustainable common home.

**MAKING  
THE  
WORLD  
A BETTER  
HOME**

## OUR STRATEGY

- Focus on sustainable habitat solutions
- An innovation-driven group
- Enhance the wellbeing of each us

**GROW &  
IMPACT**

(1) Net income (Group share) from continuing operations excluding capital gains or losses on disposals, asset impairments and significant non-recurring provisions

# Objectives

**By 2025**, we have committed to reduce (compared to 2010):

- our CO2 emissions by 40%
- our non-recovered waste by 84%
- our discharged water by 97%.

We have committed to reach net-zero emissions **by 2050** in line with 1.5°C scenarios.

To achieve this ambition, we have set out new ambitious reduction targets **for 2030**:

- 33% reduction in scope 1 and 2 absolute emissions from a 2017 baseline
- 16% reduction in scope 3 absolute emissions from a 2017 baseline.



## 4 pillars that cross our activity







## II. Saint-Gobain PAM Building & Pipework

# Sharing our story

Saint-Gobain PAM have been the leading expert of cast pipe systems & water supply pipelines for over more than 160 years !

**1513** Creation of Bayard plant



**1856** Creation of Pont-à-Mousson plant



**1866** Production of first cast iron



**1870** First exportations



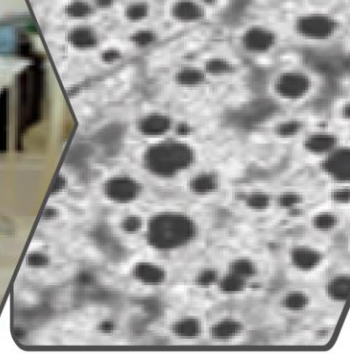
**1927** Acquisition of centrifugation process licence



**1933** Creation of R&D Centre



**1950** Licence agreement for ductile iron



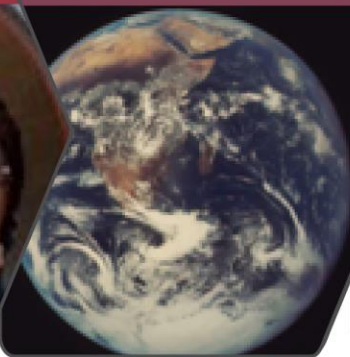
**1970** Industrialisation of ductile iron



**1972** Start-up of large diameters machine



**1980** Worldwide expansion of the Pipe Activity



**2002** Development of Products Innovation policy



**2011** Brand endorsement



**2020** Over 160 years of innovation



**2022** Creation of PAM Building





# The PAM Activities

Saint-Gobain PAM designs, produces and markets a full range of water-transport solutions.



## Buildings

- Wastewater and rainwater drainage







# III. PAM Building

# Committed to sustainability and product excellence

For 150 years, we have been designing, manufacturing and supplying high-quality drainage systems for residential and commercial buildings and engineering structures.

We work exclusively with cast iron, a noble and durable material, of which we are a specialist and leader.

- **As a leading manufacturer**, we claim excellence in our processes, products and services.
- **As a responsible manufacturer**, we are at the forefront of sustainable performance to ensure we make the world a better home.
- **As an innovative manufacturer**, we put all our creative audacity into developing new, more specific and more efficient technologies, to deliver better products for your future needs.

Our motto reflects the reality of its industry: to build safe buildings for its occupants and owners, while creating a long-term positive impact on the environment.

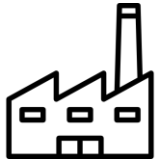
**SAFE AND  
SUSTAINABLE  
BY NATURE**





# PAM Building in figures

**PAM Building**, a company built on the strength of its people, established in 3 major countries: **France**, **England** and **Germany**, and servicing the world.



**2 manufacturing sites** for our products:  
**Bayard sur Marne** in France, **Telford** in England  
**1 logistics platform** : **Cologne** in Germany



**107 million €**  
of **turnover** in 2021

Sales in more than **50 countries**



**1st business in the cast iron industry**  
to have published a third-party validated  
Environmental Product Declaration (EPD)



Over **360** employees

**35%** female managers

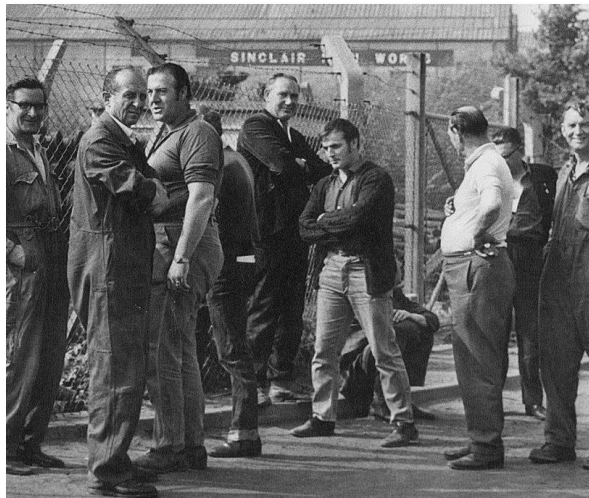
**1/3** internships and workstudy  
contracts converted to full  
employment contracts

**+38** : our indicator « Employee  
Net Promoter » that reflects the  
number of staff willing to become  
Ambassadors of the company (on a  
scale of -100 to +100)

# Two production sites : Bayard & Telford

Bayard, France

founded in 1513



Telford, United Kingdom

Founded in 1790





# Providing high quality support to our customer

## 100% pam system - 100% guaranteed performances

**SIMPLE  
IDEAS**

SUSTAINABLE  
RESULTS

**10 YEARS**

SYSTEM\* WARRANTY

\*SYSTEM = pipe + fitting + coupling



Only the exclusive combination of PAM products (pipes, fittings, couplings) and the respect of the implementation rules guarantees you results in accordance with the test reports from PAM and allows you to benefit from the **10 years warranty**.

## The pam pre-assembly stack system



**Pre-Assembled stack** solutions from PAM reduce installation time of above ground drainage and soil systems by up to 60%. A shorter installation time, fewer movements and less space used lowers the risk for construction teams.

# Providing high quality support to our customer

## Technical advice and support



**Diagnostic:** We accompany your project with technical studies to find the best product matching to your project .



**Design:** A team of engineers and technicians provide technical support during the design, implementation and after-sales phases .

## Digital Services



**Webplatform:** A complete and integrated website in which customers can find all information and support about products, as well as developed tools to carry out their projects.



**YouTube tutorials:** watch on our YouTube channel our tutorials on the installation of cast iron pipes, High Pressure couplings, GRIP collars, etc.



**BIM :** Saint-Gobain shares free BIM objects for all building industry actors. Download BIM files, descriptions and contacts for the products and systems of our brands.



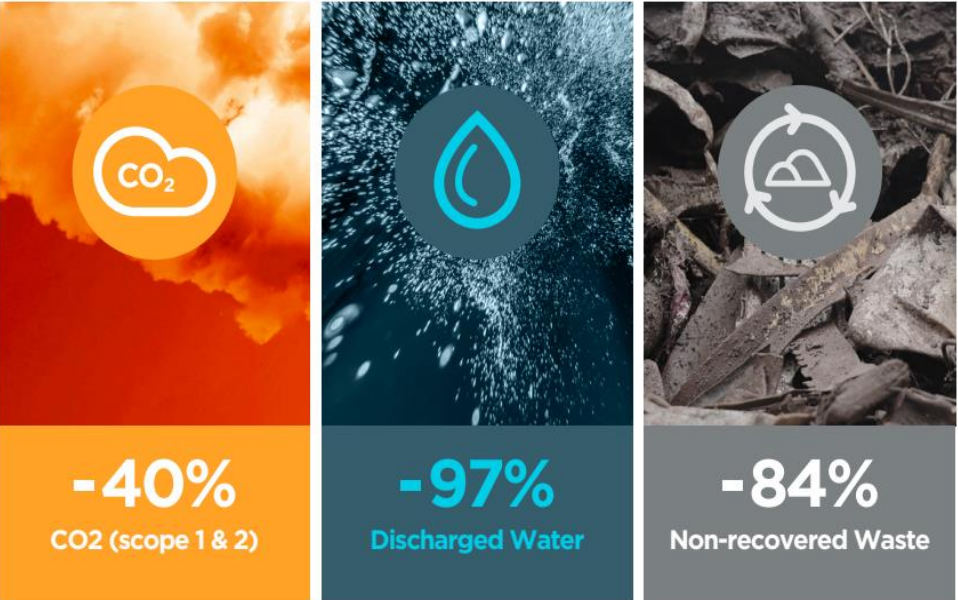


# IV. Sustainability

PAM Building, an engaged company

# Committed to reduce our impact on the environment

## Our 2025 objectives vs 2010



Our commitment to reduce CO2 emissions **by 2030: -80%** vs 2017

Thanks to the strategic choices and investments within our Bayard and Telford plants we have already made great progress.

### Bayard's plant (2021 compared to 2010)



### Telford's plant (2021 compared to 2010)





From **99%** waste recycled  
to **100%** fully recyclable  
products !

In 2021, we have recycled the equivalent of 21 000 cars.

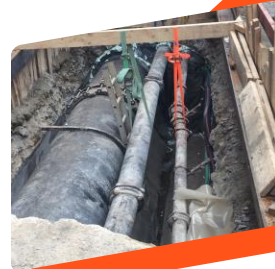
**SAFE AND  
SUSTAINABLE  
BY NATURE**

# Circular economy

We also recycled the **Old Parisian drinking water network** in our Bayard plant.

The **Parisian drinking water network pipes** is principally made of cast iron from different technological developments since the 19th century and located in the sewer galleries.

1. Pipes before removal



2. Storage of old and new pipes



3. Use of return flow



4. Crushing in Bayard plant



5. Reflections in the cupola at the Bayard plant



6. Production of new pipes for drainage system



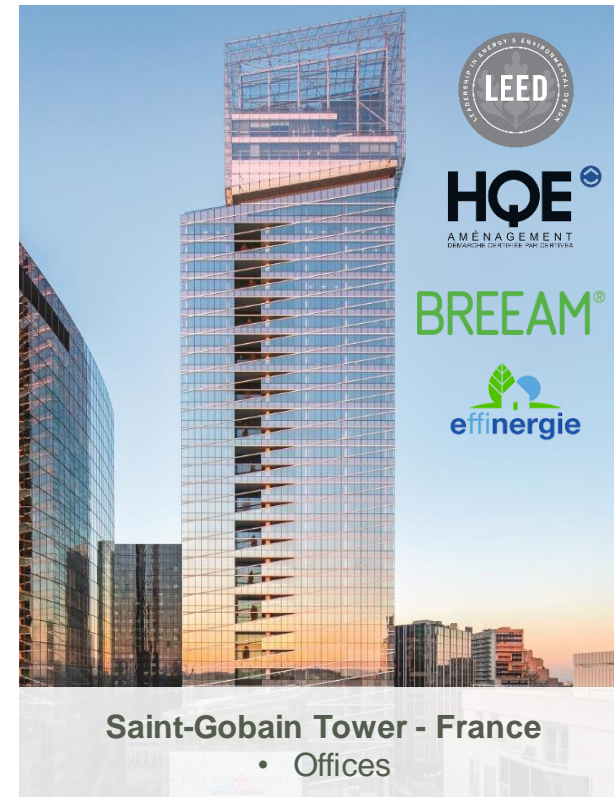


# Committed to the safety and durability of buildings

The exceptional characteristics of cast iron solutions and systems allow them to :

- ✓ Contribute to the main green building labels
- ✓ Be compliant with international standards

The Environmental Product Declaration (EPD) is certified by third party, available on the Environdec platform : [www.environdec.com](http://www.environdec.com) for S and PLUS ranges.







# V. A comprehensive cast iron pipe offer

# Highly performant ranges

Performance certified and products technically approved by the most demanding international third parties according to the EN877 standard



FRANCE  
NF



GERMANY  
RAL-GEG



UK  
KITEMARK



SWITZERLAND  
SWISS QUALITY



NORWAY  
SINTEF



RUSSIA  
GOST



AUSTRALIA  
WATERMARK

Management system for **quality**, **energy** and **environment** that contributes to the continuous improvement of our activity



# Cast iron, a reliable material



## Fire resistance

Ensures maximum safety to the building occupants.



## Chemical and corrosion resistance

Resistant to aggressive and non aggressive effluents thanks to their coatings performances.



## Acoustic comfort

Without the need of expensive insulation supporting a noise free environment.



## Ease of installation

Easy to install systems on work sites and ensure installers' safety.



## Durability

Durable and long lasting products saving long term financial resources. Watertightness, resistance to thermal expansion and internal pressure.



## Sustainable material

Made from 99% recycled content and 100% recyclable.



## Minimal maintenance

Minimal maintenance during the lifetime of the building in normal conditions.



## Compliance

Manufacturing process and products are in compliance with international standards.



# Cast iron, a reliable material

PAM Building cast iron drainage solutions target specific applications which provide with optimal safety, reliability and long service life. Our ranges respond to wastewater drainage, rainwater drainage and ventilation systems needs.

## NON RESIDENTIAL

- Airports
- Hospitals
- Shopping Centre
- Hotels
- Offices
- Collective Kitchen
- Parkings

## RESIDENTIAL

- Housing
- Kitchens
- Parkings

## INFRASTRUCTURE

- Bridges
- Tunnels





## VI. Our solutions

# Our recent solutions

## ITINERO®



**ITINERO®** drainage system is specially designed for **civil engineering structures and bridges**.

The range has been extended with new pipe diameters DN125, DN500, DN600 and more fitting designs. **Corrosion resistance** has been further improved through the combination of a zinc layer and a thick epoxy outer coating designed to resist exhaust gases, air pollution, and snow-clearance salts in winter.

## High Pressure Couplings



Connection between pipe ends, fittings and/or other accessories from PAM Building, where pressure can occur.

**PAM HP couplings** are recommended for straight runs. And **PAM HP GRIP couplings** are recommended in sections where thrust forces have to be addressed. They are an alternative solution for **securing junctions** whilst addressing pressure. The PAM HP GRIP couplings are **self-anchored with built-in claw rings**.

## Round access door with tight plate



The SMU S **access pipe with round tight plate** allows you to enter the network for inspection. Each access pipe consists of a cast iron body, a round sealing plate and an EPDM elastomer gasket.

The new inspection access pipe combines **reliability**, **simplicity** and **safety** of use. They are lighter and a more cost effective solution than equivalent rectangular door inspection fittings.



# Our application areas

Standard use



Intensive use  
(Aggressive Effluents)



Intensive use  
(Climatic stresses)



# Standard use

## ABOUT THE RANGE

Specialized range providing complete drainage solutions for transporting fluid waste and rain water through buildings. High quality cast iron pipes and couplings adapted to **standard use** applications . This range withstands different types of domestic effluents as **grey water**, **black** and **rain water**.

## APPLICATIONS

First choice for commercial, public and residential buildings, particularly medium to high rise buildings which require robust and safe solutions for basements and lower levels to the vertical risers. Some common applications are:

- Offices
- Shopping center
- Housing
- Airports
- Hospitals
- Hostels
- Public buildings
- Stadiums

## MAJOR BENEFITS

- ✓ Reaction to fire: A1 (the safest rating achievable)
- ✓ Acoustically cast iron is the quietest material on the market
- ✓ Manufactured from 99% recycled content
- ✓ 100% recyclable

## AVAILABLE RANGES

- Above ground installation:
  - SMU S
  - PAM GLOBAL S
  - ENSIGN SOIL



# Intensive use : aggressive effluents

## ABOUT THE RANGE

Highly performant cast iron pipe and couplings ranges designed to withstand internal stresses due to **aggressive effluents**. Smartly designed to drain wastewater in above and below ground applications when exposed to hot and/or aggressive discharge.

Products in compliance with **EN877** standard.



## APPLICATIONS

An integrated solutions for buildings exposed to intensive uses as :

- Collective kitchens
- Hospitals
- Laundry room

## MAJOR BENEFITS

- ✓ Reaction to fire: A2-s1, d0
- ✓ Acoustically cast iron is the quietest material on the market
- ✓ Manufactured from 99% recycled content
- ✓ 100% recyclable

## AVAILABLE RANGES

- SMU PLUS
- ENSIGN DRAIN
- PAM GLOBAL PLUS



# Intensive use : climatic stresses

## ABOUT THE RANGE

High-performance cast iron pipes designed to withstand external stresses due to climate exposures (ultraviolet radiation, saline mist, condensation, freezing-thawing cycles and pollution). **Zinc coating** improves the pipes' ability to withstand **climatic stresses** and extends their service life.

Products in compliance with **EN877** standard.



## APPLICATIONS

An integrated solutions for buildings exposed to aggressive atmospheres :

- Polluted atmospheres
- Coastal areas
- Confined atmospheres

## MAJOR BENEFITS

- ✓ Reaction to fire: A2-s1, d0
- ✓ Acoustically cast iron is the quietest material on the market
- ✓ Manufactured from 99% recycled content
- ✓ 100% recyclable

## AVAILABLE RANGES

- SMU ZN

# Infrastructure

## ITINERO®



# Infrastructure



## ABOUT THE RANGE

This offer by Saint-Gobain PAM is an adapted solution that meets the high drainage technical demands of infrastructure projects. To efficiently address specific stresses met with bridge deck and tunnels drainage, SAINT-GOBAIN PAM launched the dedicated range **ITINERO®**. All our ranges are in compliance with **EN877** standard.

## APPLICATIONS

- Bridges
- Tunnels
- Viaduct
- Buried systems
- Car parks

## MAJOR BENEFITS

- ✓ Corrosion resistant thanks to zinc and epoxy coating
- ✓ Insensitive to heat, cold and high temperature variations
- ✓ Ease of installation
- ✓ Preventive fire protection (non-flammable)
- ✓ Long service life
- ✓ Aesthetics
- ✓ 100% recyclable

## AVAILABLE RANGES

- ITINERO®



# Rainwater drainage systems

## Gravitary systems



## Siphonic systems



# Gravitary use – Rainwater pipes

## ABOUT THE RANGE

A dedicated range aimed to drain rainwater in building facades above ground. Cast iron downpipes are recognized for their aesthetic charm, strength to withstand high winds, heavy snow, and other adverse conditions.



## APPLICATIONS

All types of buildings with aesthetic demand such as:

- Public buildings
- Homes of high quality and appearance
- Properties in conservation areas
- Ecclesiastical buildings i.e. Churches

## MAJOR BENEFITS

- ✓ High resistance to impact
- ✓ High resistance to strong weather conditions
- ✓ Retains and enhances the traditional character of the building
- ✓ Minimal maintenance
- ✓ 100% Recyclable

## AVAILABLE RANGES

- Residential

# Siphonic system : EPAMS®

## ABOUT THE RANGE

Traditionally, the rainwater is collected from the roof at regular points by gravity flow. In the alternative method, called « siphonic », the run-off water is drained in pipeworks operating at full bore, harnessing the principle of mechanical energy conservation between the high spots, rainwater outlets, and the low spot which is the main drain.

## APPLICATIONS

Siphonic rainwater drainage system EPAMS® is devoted to drain run-off water from building roofs. It is particularly adapted to drain large roofs and minimize risks of overloading:

- Logistic building
- Commercial buildings
- Public buildings like stadiums or airports
- Roofs in high rise buildings.

## MAJOR BENEFITS

- ✓ Smaller pipe sections
- ✓ Long horizontal runs without gradient which can be installed very close to the roof or ceiling and reduced need for vertical pipework.

## AVAILABLE RANGES

- EPAMS®





# Ventilation system

## Earth-to-air heat exchanger



# Ventilation system : Elixair®

## ABOUT THE RANGE

Elixair® is a underground pipelines which work as an air-to-ground heat exchanger. It is used for air renewal in buildings. This exchanger is based on the differential between air temperature outside the building and ground temperature which tends to become constant when a sufficient depth is reached.



## APPLICATIONS

- Housing
- Commercial

## MAJOR BENEFITS

- Mechanical resistance
- Tensile strength
- Expansion ability
- Elasticity and surface hardness
- Internal pressure resistance
- Longevity
- Tightness

## AVAILABLE RANGES

- ELIXAIR®





# VII. Case studies



# HOTELS



Shangri-La Island Hotel  
Honk Kong- China  
Zn range



Peninsula - Yangon  
Myanmar  
Zn range



Rixos Tersane Hotel  
Istanbul - Turkey  
S range



Four Seasons Hotel  
Moscow - Russia  
S range



Grand Hyatt Hotel  
Dubai- UAE  
S range



Conrad Hotel  
Hong Kong - China  
Zn range



Shangri-La - Istanbul  
Turkey  
S range



Hilton Hotel and Residence  
Riyadh – KSA  
Ensign - SMU

# HOTELS

Name of the Project	Country
Hyatt Regency - Algier	Algeria
Sofitel Thalassa – Algier	Algeria
Marriott Mostar - Mostar	Bosnia & Herzegovina
AZALAÏ 5* - Ouagadougou	Burkina Faso
Shangri-La Island Hotel - Honk Kong	China
Marriott Ocean Park - Hong Kong	China
Conrad Hotel - Hong Kong	China
The St-Regis - Hong-Kong	China
Wynn Palace Casino – Macau	China
Grand Lisboa Palace Casino – Macau	China
Club Med La Rosière - Montvalezan	France
Movenpick Hotel Diplomatic Quarter - Riyadh	KSA
Royal Mansour - Casablanca	Morocco

Name of the Project	Country
Four Seasons Hotel – Moscow	Russia
Sofitel Singapore City Center – Singapore	Singapore
Four Seasons - Madrid	Spain
Raddisson Hotel - Bursa	Turkey
Rixos Tersane Hotel - Istanbul	Turkey
Shangri-La - Istanbul	Turkey
Hilton Bomonti - Istanbul	Turkey
Hilton Bakirkoy – Istanbul	Turkey
Madinat Jumeirah Hotel Resort - Dubai	UAE
Grand Hyatt Hotel - Dubai	UAE
Peninsula Hotel - London	UK
Curio Hotel (Hilton Group) - London	UK
Tashkent City Hotel - Tashkent	Uzbekistan



# HIGH-RISE BUILDINGS



Tao Zhu Yin Yuan Tower  
Taipei - Taiwan  
S range - EPAMS®



Ziraat Bank Financial Center  
Istanbul - Turkey  
S range



Folkart Towers  
Izmir - Turkey  
S range



CFC Tower  
Casablanca – Morocco  
S range



Lakhta Tower  
Saint-Petersburg - Russia  
S range



The Avenue Monterey Place  
Hong Kong - China  
Zn range



# HIGH-RISE BUILDINGS

Name of the Project	Country
Downtown One - Tirana	Albania
Air Algeria Tower - Algier	Algeria
Central Bank of Azerbaijan - Baku	Azerbaijan
The Avenue Monterey Place - Hong Kong	China
Tai Koo Shing - Honk Kong	China
Duo Tower Paris - Paris	France
Trinity Tower - Paris	France
Alto Tower Paris - Paris	France
Rhein 740 Tower - Düsseldorf	Germany
Tower One - Frankfurt	Germany
Golden Tower - Jeddah	KSA
Studio City Phase 2 - Macau	Macau

Name of the Project	Country
CFC Tower - Casablanca	Morocco
Seef Lusail Residential Development Plots D3&D4 - Lusail	Qatar
Al Dana Tower - Doha	Qatar
Lakhta Tower - Saint-Petersburg	Russia
Capital Towers - Moscow	Russia
Kula Belgrade - Belgrade	Serbia
Glory - 88 Market Street - Singapore	Singapore
Tao Zhu Yin Yuan Tower - Taipei	Taiwan
Ziraat Bank Financial Center - Istanbul	Turkey
Palladium Tower - Istanbul	Turkey
Folkart Towers - Izmir	Turkey
Al Wasl Tower - Dubai	UAE

# HEALTHCARE FACILITIES



Acibadem Hospital Ataşehir  
Istanbul – Turkey  
S range



City Clinic Hospital  
Kommunarka - Russia  
S & Plus range



Clínica Universitaria de Navarra  
Madrid - Spain  
S & Plus range



Children's Hospital - Helsinki - Finland  
S range



Sidra Hospital - Doha – Qatar  
S range

# HEALTHCARE FACILITIES

Name of the Project	Country
Military Hospital - Tamanrasset	Algeria
Larnaca Hospital - Larnaca	Cyprus
Children's Hospital - Helsinki	Finland
CHU ABYME - Guadeloupe	France
CHU de Michalon - Grenoble	France
Hôpital de Moorea - Tahiti	France
Hôpital de Taravao - Tahiti	France
PSO - Ile de la Réunion	France
New Dublin Children's Hospital - Dublin	Ireland
Saudi Arabian National Guard Health Affairs - Riyadh	KSA
Security Forces Hospital - Riyadh	KSA
Princesse Grace Hospital	Monaco

Name of the Project	Country
CHU Tangier - Tangier	Morocco
CHP Al-Hoceima	Morocco
Sidra Hospital - Doha	Qatar
City Clinic Hospital - Kommunarka	Russia
Clínica Universitaria de Navarra - Madrid	Spain
Acıbadem Hospital Ataşehir - Istanbul	Turkey
Bozüyük State Hospital - Bilecik	Turkey
Bursa Integrated Health Campus - Bursa	Turkey
American Hospital - Dubai	UAE
Clatterbridge Hospital - Liverpool	UK
Grange University Hospital - Wales	UK
CHU Tangier - Tangier	Morocco



# CULTURAL & LEISURE FACILITIES



Kai Tak Sports Ground  
Hong-Kong – China  
Zn range



Xiqu Center  
Hong-Kong - China  
Zn range



Ataturk Cultural Center  
Istanbul – Turkey  
S range - EPAMS®



Grand Theatre Rabat  
Rabat - Morocco  
S range



Shaw Auditorium HKUST  
Hong Kong – China  
Zn range



Zaryadie Philharmonic Hall  
Moscow – Russia  
S range



Opera House  
Dubai - UAE  
Plus range



Munch Museum  
Oslo - Norway  
S range

# CULTURAL & LEISURE FACILITIES

Name of the Project	Country
Berraki Stadium - Algier	Algeria
Shaw Auditorium - Hong-Kong	China
Kai Tak Sports Park - Hong Kong	China
11 Skies Commercial Complex - Honk Kong	China
Hong Kong Convention & Exhibition Centre - Hong Kong	China
Wynn Palace Casino - Macau	China
Xiqu Center - Hong-Kong	China
Grand Theatre Rabat - Rabat	Morocco
Arribat Mall Center - Rabat	Morocco

Name of the Project	Country
Munch Museum - Oslo	Norway
Oasis Mall - Doha	Qatar
Qatar National Museum - Doha	Qatar
Zaryadie Philharmonic Hall - Moscow	Russia
New Atatürk Cultural Center - Istanbul	Turkey
Istanbul Museum of Modern Arts - Istanbul	Turkey
UAE Pavillion EXPO 2020 - Dubai	UAE
Opera House - Dubai	UAE
Liverpool FC Training Academy - Liverpool	UK



# AIRPORTS



Domodedovo Airport - Moscow - Russia  
S range



HKIA Sky Bridge – Hong-Kong – China  
Zn range - EPAMS®



Geneva Airport - Geneva Switzerland  
S range - EPAMS®



Changi Airport Terminal 4 – Singapore  
EPAMS®



Rize Airport - Rize - Turkey  
S range



Oran Airport - Oran - Algeria  
S range - EPAMS®



# AIRPORTS

Name of the Project	Country
Ahmed Ben Bellah International Airport - Oran	Algeria
Hong Kong Airport Terminal 2 Extension	China
HKIA Sky Bridge - Hong-Kong	China
International Airport Terminal 3 - Frankfurt	Germany
Athens Airport Extension - Athens	Greece
Ahmad Yani Airport New Terminal - Semarang	Indonesia

Name of the Project	Country
Muscat International Airport - MC 5 - Muscat	Oman
Domodedovo Airport - Moscow	Russia
Changi Airport Terminal 4 - Singapore	Singapore
Geneva Airport - Geneva	Switzerland
Rize Airport - Rize	Turkey
Manchester Airport Terminal 2 - Manchester	UK

# INFRASTRUCTURES



TGV Train Station - Kenitra – Morocco  
S range - EPAMS®



Dumbea Bridge - Noumea - New Caledonia  
Itinero®



Eurasia Tunnel - Istanbul - Turkey  
S range



Gayrettepe - Istanbul Airport Metro  
Istanbul – Turkey  
S range



Tournon Viaduct – Savoie – France  
Itinero®

# INFRASTRUCTURES

Name of the Project	Country
Cross Yarra Rail Tunnel – Melbourne	Australia
Tournon Viaduct - Savoie	France
Mont Blanc Tunnel - Haute-Savoie	France
TGV Train Station - Kenitra	Morocco
Dumbea Bridge - Noumea	New Caledonia
Kula Vodno - Skopje	North Macedonia
Doha Metro - Doha	Qatar
Gayrettepe - Istanbul Airport Metro - Istanbul	Turkey
Eurasia Tunnel - Istanbul	Turkey
Step Project - Abu Dhabi	UAE





## Follow us !

**Our website :**

[www.pambuilding.com](http://www.pambuilding.com)



[PAM Building page](#)



[PAM Building channel](#)



# Thank you !



**SAFE AND  
SUSTAINABLE  
BY NATURE**