



CASE STUDY

Segment: Smart City

Market: Middle East

Project: Place Vendôme, Qatar

About the project: Place Vendôme is a mixed-use development located in the city of Lusail in Qatar, covering a total build-up area of 1,150,000 m². The project has been entrusted to United Developers under the guidance of local investors who are experts in real estate, retail, construction, and contracting. Situated at a distance of 11 km from the centre of Doha, the multifunctional structure comprises three five-star hotels, serviced apartments, 560 different retail outlets, and an open plaza surrounded by cafes and restaurants, offering a view of a canal with dancing fountain shows. It is designed to bring together retail, leisure, and entertainment, making it an ideal seaside destination.

PNEUMATIC WASTE COLLECTION AT PLACE VENDÔME

United Developers and the owners of Place Vendôme are committed to establishing an innovative and sustainable city aligned with Lusail's broader vision. In pursuit of this goal, they have implemented a standalone pneumatic waste collection system (PWCS) to serve the mall's waste management needs. The PWCS operates using a network of underground pipes to transport waste directly from the retail outlets and hotels to a central waste collection point.

Benefits of revolutionising mall's waste management with PWCS:

- The system eliminates the need for manual waste transportation at the mall, improving user well-being.

- PWCS reduces the manual labour required for waste collection and eliminates the need for large garbage trucks to navigate the busy corridors.
- With hallways, elevators and corridors free of garbage bins and waste vehicles, the ambience is more spacious, and developers can plan more effectively with empty spaces.
- PWCS is designed to be environmentally friendly, reducing carbon emissions by up to 90% by eliminating the need for trucks and reducing plastic waste associated with traditional garbage bags.

Incorporating Envac's technology highlights the mall's commitment to sustainability and innovation. Furthermore, it enhances the experience for both visitors and tenants. The PWCS is a valuable addition to the already luxurious ambience of Place Vendôme, making it even more attractive.

10

tonnes of waste/day

in two fractions general and recyclables

39

waste inlets

16 diverter valves connected to chutes, 20 outdoor inlets situated in the courtyard and one in each of the hotels & serviced apartment

1
smart system

3 containers in collection station connected by pipe diverting valve, allowing the network to change between fractions

90%
lower carbon emission

System reduces carbon emissions from garbage collection trucks making city life greener, smarter, and more sustainable

ENVAC'S AUTOMATION PLATFORM SUPPORTING PLACE VENDÔME

The plan is to boost resource recovery rates by using Envac's Automation Platform (EAP). A two-fraction system is in place to separate general and recyclable waste. Each waste type will be directed to separate inlets connecting to multiple vertical chutes. This design will prevent waste overflowing, a common problem in traditional waste collection systems. Waste will be temporarily stored at the valve until a collection cycle is triggered by a level sensor or a timed sequence controlled by Envac's Automation Platform (EAP). Waste collection stations in the Envac system are remotely located, eliminating the need for waste collection trucks to enter the development. The EAP will ensure that the system operates efficiently by keeping energy consumption low, and machine learning will adapt to the waste volume during peak times.



3,000

meters pipe network

Connecting all waste inlets to the main collection terminal. The vacuum exhausters at the collection station create negative pressure in the pipe network. EAP controls valve openings to create air flow, and the discharge valves open to let waste in.



“We want to express our sincere appreciation for the excellent partnership with Envac in the Lusail Project over the past year. Place Vendôme Qatar is committed to its guests and tenants, especially during significant events, and the Envac team has consistently delivered the PWCS works with positivity and rapid responsiveness. Envac actively engaged in the operation of the PWCS plant from the Lusail Command and Control Center during the successful hosting of the Qatar 2022 FIFA World Cup last year. We want to thank Envac for their ongoing commitment to providing Place Vendôme's PWCS projects with diligent and competent service. We look forward to continuing this important cooperation in the future.”

- Mohamed Hamdi
Head of Operations,
United Developers, Qatar

