



# BECAUSE THE FUTURE IS BRIGHT

Redefining solar energy





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## A VERTICALLY WITH INFINITE SOLUTIONS

The full potential of solar energy

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# AN AUTONOMY WITH POWER

Monolith series

## 01

### About us

1.1

#### ON THE LOOKOUT FOR INNOVATION

Soluxium Technologies is a young and dynamic company motivated by the desire to offer creative solutions to an ever-growing need: the supply of critical equipment in locations with limited infrastructure.

With our desire to be the leader in the field, the major investment in a brand new head office allows us to increase our production capacity and expand our portfolio of innovative solutions.

### Our mission

1.2

#### REDEFINING SOLAR ENERGY

Our mandate is to redefine solar energy supply. We believe that everyone should have access to basic electricity, communication and security services. Our innovative product line with unparalleled energy storage and production capacity enables the deployment of a multitude of services and technologies to communities, government entities and businesses while eliminating the costs and work associated with the installation, maintenance and upgrading of infrastructure.

Thanks to our different devices that are powerful, intelligent and entirely autonomous, it is now possible to reach this ideal and offer access to the benefits of modern technologies while respecting the integrity of the surrounding nature.

Soluxium Technologies, solutions for a bright future.

2017

Market studies  
Launch of Soluxium Technologies

2018

Design of the Monolith

2020

Commercialization of the Monolith  
Design of the SPT  
Distinction by the AQRT

2021

Commercialization of the SPT  
Solar Impulse certification

On the left, the MS2 and the MS4 at the edge of the A-640 in Quebec, Canada.



# Our team

1.2

## AN EXCEPTIONAL TEAM

Soluxium Technologies is a young, dynamic and experienced team. With many years of experience in the electrical field, information technology, structural engineering and business development, each member is equipped to promote innovation and has the expertise to design efficient and effective products.



**David TREMBLAY**  
President



**Jonathan SAURO**  
Vice President Engineering



**Julie GIRARD**  
Vice Presidente Finances



**Charles LEBLANC**  
Vice President Sales



**Émilie AUCLAIR**  
Sales Director



**Jean-Philippe ST-LOUIS**  
Vice President  
Operations | Production



**Myriam B.ROUSSEAU**  
Operations Director



**Michel PRÉVOST**  
Associate



**Olivier JOBIN**  
Associate

On the right, the MS3 in Taman Negara National Park, Malaysia.

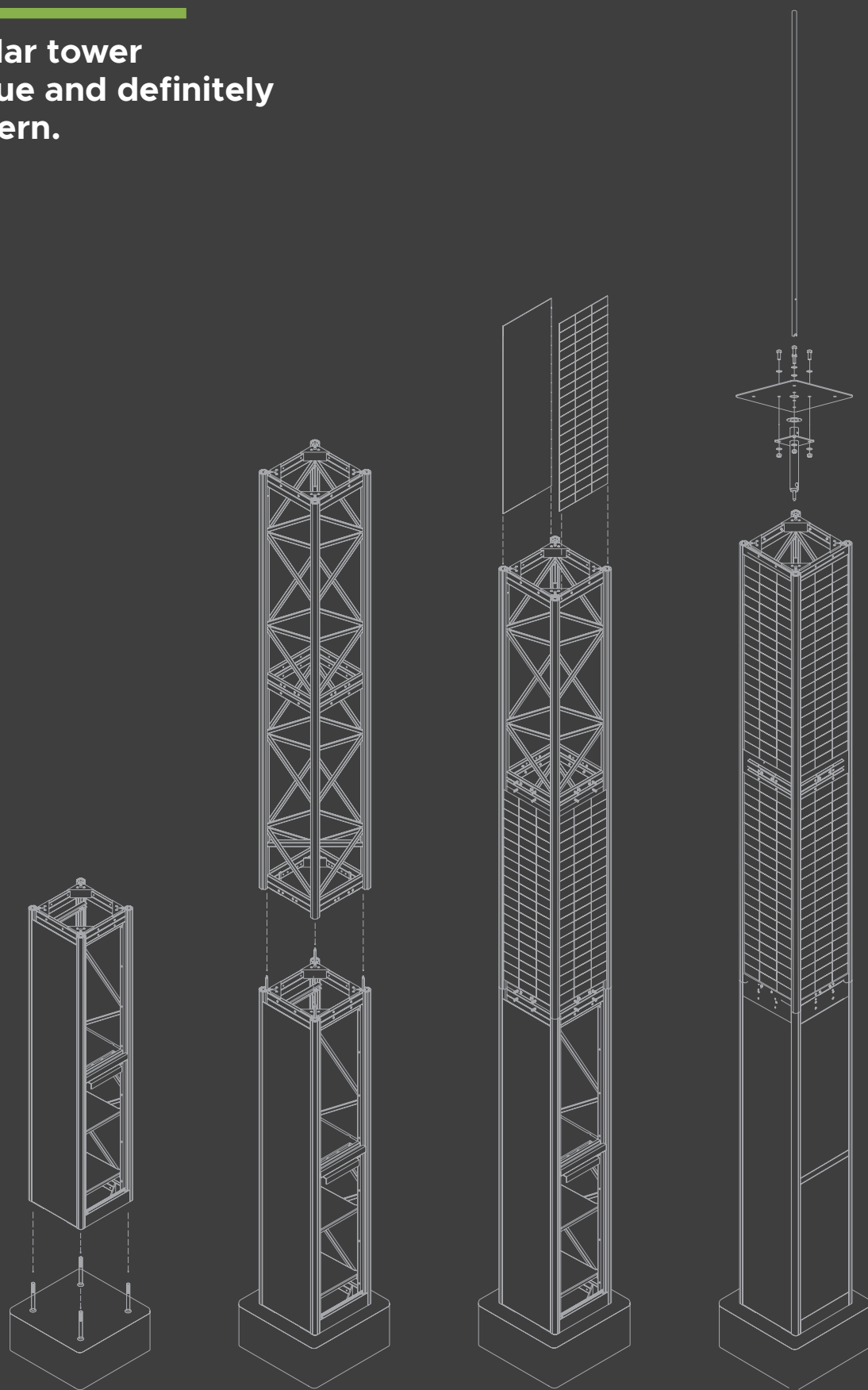


**CREATE  
MODERNIZE  
INNOVATE**

Solar energy redefined



A solar tower  
unique and definitely  
modern.



02

Serie  
**MONOLITH**

MS1 | MS2 | MS3 | MS4





## The Monolith 2.1

**A fully autonomous solar tower with customized intelligent functions offering high energy production.**

The Monolith represents the new generation of multi-functional solar tower on the market. Designed to ensure uninterrupted operation of critical equipment, its innovative design allows it to maximize its performance, storage capacity and energy production. Its photovoltaic panels are equipped with the latest cell technology and its patented chassis provides the space required for battery storage.

Thus, the combination of its high energy storage capacity and its numerous solar panels gives it an exceptional autonomy, even when the weather conditions are unfavorable. The solar tower can also provide power for communication systems to extend data transmissions, provide wireless access to a multitude of network varieties, and raise the level of security, functionality, and self-sufficiency at all venues and events.



The MS3 on the alley of the Old Port of Montreal, Canada.

### Advantages

- Urban, modern and solid design that can be installed in any environment
- Unmatched energy efficiency on the market
- Energy accumulators and secure electronic components within the structure
- Significant reduction in operations, infrastructure and maintenance costs
- Strong resistance to wind and weather
- Real-time remote access to performance data
- Programmable email alarms
- Uninterrupted power to critical equipment

## The applications 2.2

**The Monolith is a solar tower that meets specific needs with solutions that are both viable and durable.**

Its numerous mounting plates and its six-foot mast allow it to attach many types of equipment from different technological spheres. Whether it's surveillance cameras, antennas, weather stations, lights or even emergency telephone devices, the Monolith is ready to receive them and ensure their continuous operation. In addition, its optional USB ports can easily charge electronic devices and its intelligent functions to notify the manager of any technical problems or unauthorized opening of the box.



The MS4 on the university campus in Fullerton California, USA.



### LIGHTING

Multiple anchor points for the installation of exterior lights such as street lights and directional lights with wide or narrow beam.



### ELECTRIFICATION

Power for external electrical devices such as water pumps, crossing gates and motorized fences.



### SECURITY

Enhanced civil security with emergency telephones, audio and broadcast warning systems and video monitoring and surveillance with fixed, motorized and thermal cameras.



### TELECOMMUNICATION

Deployment of WiFi, 3G, 4G or LTE networks and increasing the range of communications with point-to-point and mesh systems.



### MULTI-TECHNOLOGY

The power, reliability and autonomy of the Monolith series make it possible to combine all types of technologies in a single tower.



# AN INDEPENDENT ENERGY SOURCE

Solar energy reinvented

## Did you know?

With a power of up to 2480 W and an energy storage capacity of 9600 Wh, the Monolith allows the absorption of 490 kg of CO<sub>2</sub> annually, which is the equivalent of 22.5 trees.

One tree absorbs up to 21.7 kg of CO<sub>2</sub> per year.

## The characteristics

2.3

**With its unique design, the Monolith blends into the urban and rural landscape.**

Its entirely vertical design allows it to be a low-maintenance product since the elements, such as rain and wind, naturally clean the exterior of the building. In addition, from dawn to dusk, the positioning of the panels ensures efficient energy production.

### STRUCTURE

The Monolith is made of a robust aluminum alloy frame that is wind resistant. Its solar panels, composed of high-performance cells, are covered with a hardened and reinforced glass to ensure their durability for the most arduous climates, which ensures excellent efficiency.

### FINISH

Its standard natural aluminum finish allows it to resist corrosion. It can also be painted and/or treated for better resistance to salt air and high humidity. Several colors are available according to the customer's needs.

### STORAGE

Batteries, electrical and electronic components are housed in separate compartments. These compartments are weatherproof and prevent the intrusion of environmental contaminants.

### SECURITY

Accommodates multiple security systems simultaneously such as surveillance cameras, video management software, emergency telephones, public address systems and more.

### ANCHORING BASE

A standard concrete base with 1 inch bolts requiring no conduit, wiring, infrastructure or electricity.

### NETWORK

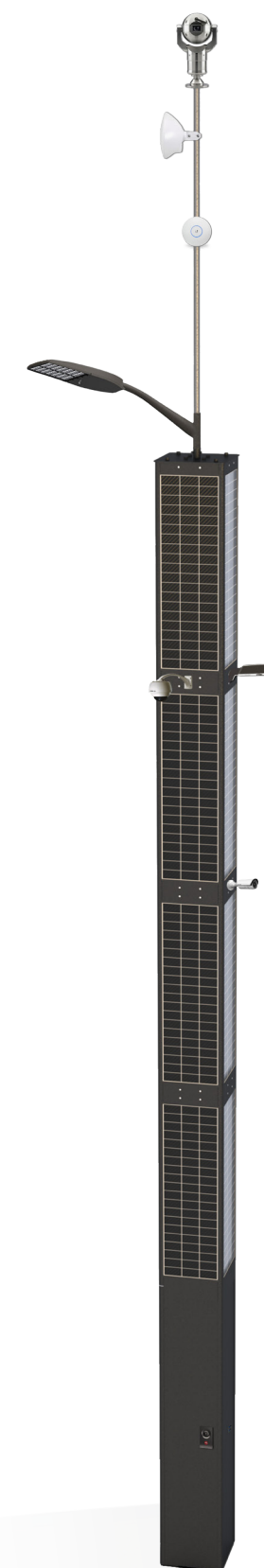
Mesh, Point to Point or Point to Multi-point, GSM 3G, 4G or LTE network and WIFI system.

### EXTENSION POLE

The design of the Monolith offers the possibility of installing a vertical pole on its roof to attach a panoramic camera and a telecommunication antenna up to 6 feet high.

### WARRANTY

Five-year limited warranty. Ten-year warranty on solar pane.



On the left, the MS4 on the edge of Highway 640 in Quebec, Canada.  
On the right, the MS4.





# Solar Impulse 2.4

The Monolith series is one of the 1000 solutions certified by the Solar Impulse Foundation. With its innovative and efficient technology, Soluxium Technologies meets the criteria of the most profitable, ecological and viable renewable energy on the market.

In its praise of new technologies that combine ecology and economy, Solar Impulse is intended as a promotional platform to highlight the best in sustainable development and cost-effective solutions. The objective is to demonstrate that the selected alternatives are judicious choices for the protection of the environment and advantageous for clean economic growth.



The MS4 at Central Park in New York, USA.

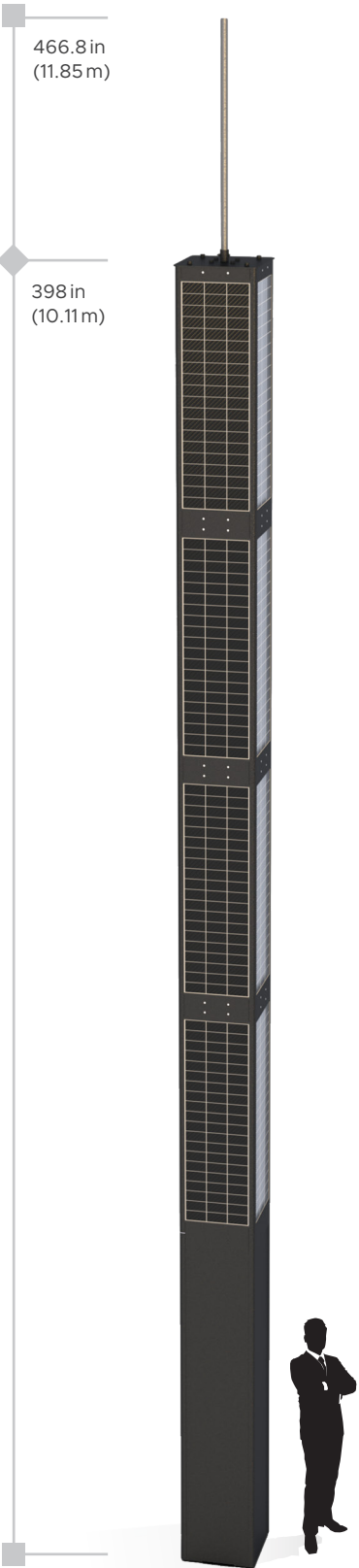
# The specifications 2.5

STRUCTURE	MS1	MS2	MS3	MS4
Width	22.875 in (581mm)			
Depth	22.875 in (581mm)			
Total height (without mast)	183.5 in (4.66 m)	255 in (6.48 m)	326.5 in (8.29 m)	398 in (10.11m)
Dimension of the mast	1.9 in x 88 in (48 mm x 2.235 m)			
Visible part of the mast	1.9 in x 68.5 in (48 mm x 1.74 m)			
Weight (without battery)	555.96 lbs (252.18 kg)	711.68 lbs (322.81 kg)	867.4 lbs (393.45 kg)	1023.12 lbs (464.08kg)
Tower material	6061-T6 aluminum alloy			
Mast material	Galvanized steel			
Bolt circle	21.627 in (549 mm)			

SOLAR	MS1	MS2	MS3	MS4
Number of panels	4	8	12	16
Total power	620 W	1240 W	1860 W	2 480 W

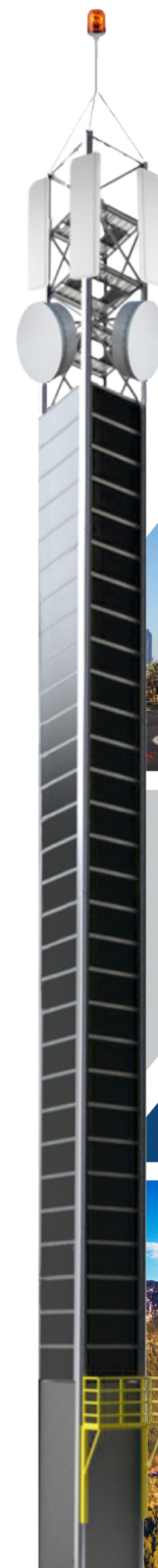
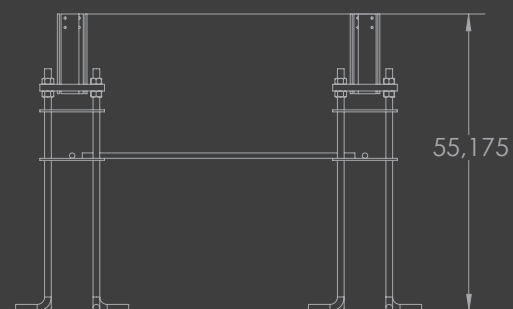
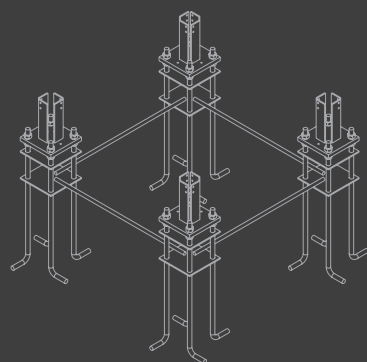
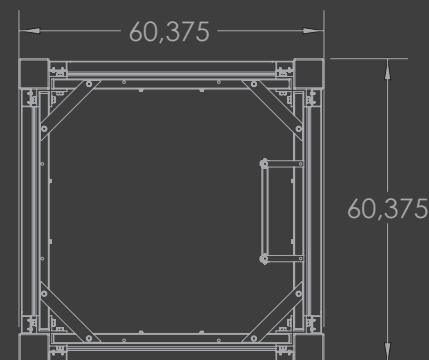
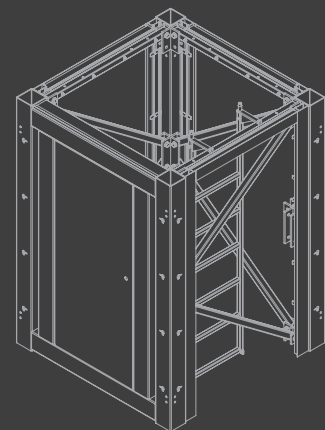
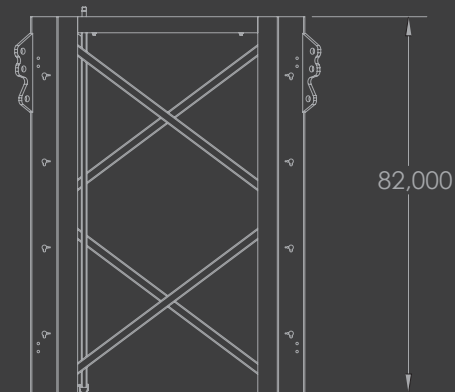
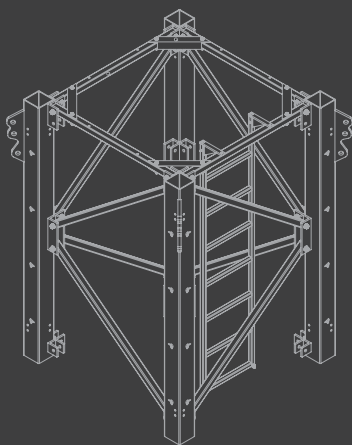
BATTERIES	MS1	MS2	MS3	MS4
Chemistry	AGM			
Voltage	12 Vdc / 24 Vdc			
Capacity	800 Ah / 400 Ah			
Discharge capacity	50 %			
Lifetime - 30% DOD	3 000 cycles			
Chemistry	LiFePO4			
Voltage	24 Vdc / 48 Vdc			
Capacity	400 Ah / 200Ah			
Discharge capacity	90 %			
Lifetime - 90% DOD	6 000 cycles			

WARRANTY	
AGM Batteries	1 year
LiFePO4 Batteries	5 years
Global limited	5 years
PV Panels	10 years (90 %)





A solar tower  
with unparalleled energy  
efficiency.



03

Serie **SPT**  
**SMART TOWER POWER**

SPT44-S | SPT44-L | SPT77-S | SPT77-L





## The SPT 3.1

**A fully autonomous solar utility tower designed to offer countless possibilities of use.**

The Smart Power Tower was developed to be a power source with unmatched performance specifically for areas where infrastructure is either insufficient or non-existent. Its multiple photovoltaic panels can support systems consuming up to 5 kW, offering exceptional performance even in adverse weather conditions.

Its vertical design provides a small footprint, high reliability and minimal maintenance. The tower's remote monitoring system also allows for reduced and coordinated maintenance, thus reducing frequency and costs. As for the batteries, electronic components and photovoltaic panels, they remain secured inside the structure, thus limiting the risks of theft and vandalism. Moreover, its battery bank allows it to perform at full capacity for up to 42 hours in absolute darkness.



The self-supporting SPT77-S for a traffic circle in Akwaba City, Africa.

## Advantages

- Smaller footprint
- Unmatched energy efficiency on the market
- PV energy accumulators and secure electronic components within the structure
- Significant reduction in operations, infrastructure and maintenance costs
- Strong resistance to wind and weather
- Real-time remote access to performance data
- Programmable email alarms
- Uninterrupted power to critical equipment

## The applications 3.2

**The SPT is a unique, intelligent and sophisticated solar tower that meets multiple needs.**

Its modular design and optional guy wire system allows it to adapt to the needs of a given territory. Whether it's for lighting, level crossing barriers, proximity sensors or satellite communication systems, the SPT can power all types of technologies without interruption.



The SPT77-L on a territory in Mali, Africa.



### LIGHTING

Multiple anchor points for the installation of exterior lights such as street lights and directional lights with wide or narrow beam.



### ELECTRIFICATION

Power for external electrical devices such as water pumps, crossing gates and motorized fences.



### SECURITY

Secures sites with a multitude of device types such as cameras, proximity sensors, speaker systems and emergency phones.



### TELECOMMUNICATION

Deploy 3G, 4G, 5G or LTE cellular networks and increase the communication range with satellite and microwave communication systems.



### MULTI-TECHNOLOGY

The power, reliability and autonomy of the SPT series offer the possibility of combining all types of technologies in a single tower.





# POWERFUL INTELLIGENT AUTONOMOUS

Smart Power Tower

## The characteristics

3.3

**The SPT adapts to all natural environments and remains in perfect harmony with its surroundings.**

Its entirely vertical design reduces the footprint by minimizing deforestation areas while protecting it from theft and vandalism. Its photovoltaic panels are mounted high and secured from the inside, and access to the batteries is locked.

### STRUCTURE

Made of strong, durable aluminum alloy, the SPT performs well in harsh weather, salty environments and time. This material is 100% recyclable and its light weight makes it easy to transport and assemble.

### AUTONOMY

Accommodates a variety of battery technologies and configurations. The SPT can also be extended at the base to accommodate battery banks of several thousand ampere hours.

### MODULAR

The modular design allows the height to be increased or decreased depending on the desired photovoltaic performance of the tower.

### LARGE HEIGHT

The bracing system allows the structure to reach up to 200 ft (61m) in height while maintaining excellent deflection properties.

### URBANISM

Esthetic and solid, the freestanding SPT integrates and harmonizes perfectly with urban environments. Several colors available according to the customer's needs.

### HYBRID

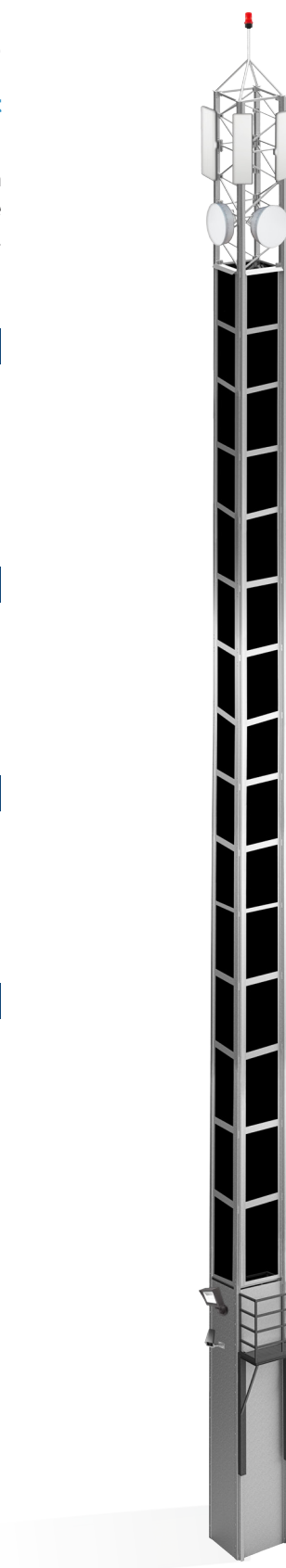
Although designed as a completely autonomous device, it can be combined with an electrical network or a generator to make it a hybrid solution.

### INSTALLATION

The simple and fast assembly structure can be erected with or without a crane.

### ADAPTABILITY

With its innovative design, the SPT can be adapted to countless needs.



On the left, the SPT77-L in the Bras-du-Nord Valley in Quebec, Canada.  
On the right, the SPT44-L.



# The specifications

## 3.4

STRUCTURE	SPT44-S	SPT44-L	SPT77-S	SPT77-L
Width	4 ft 11 in 11/16 (1516 mm)		7 ft 11 in 11/16 (2 429 mm)	
Depth	4 ft 11 in 11/16 (1516 mm)		7 ft 11 in 11/16 (2 429 mm)	
*Usable height (A)	99 ft 8 in (30.18 m)	156 ft 8 in (47.74 m)	102 ft (31.09 m)	160 ft 3 in (48.86 m)
*Total height (B)	106 ft 2 in (32.31 m)	163 ft 1 in (49.71 m)	108 ft 6 in (32.92 m)	166 ft 9 in (50.83 m)
Type of support	Self-supporting	Rigging struts	Self-supporting	Rigging struts
Number of supports	0	16 (4 per side)	0	16 (4 per side)

\* The height is adaptable to the customer's needs due to the modular design of the device.

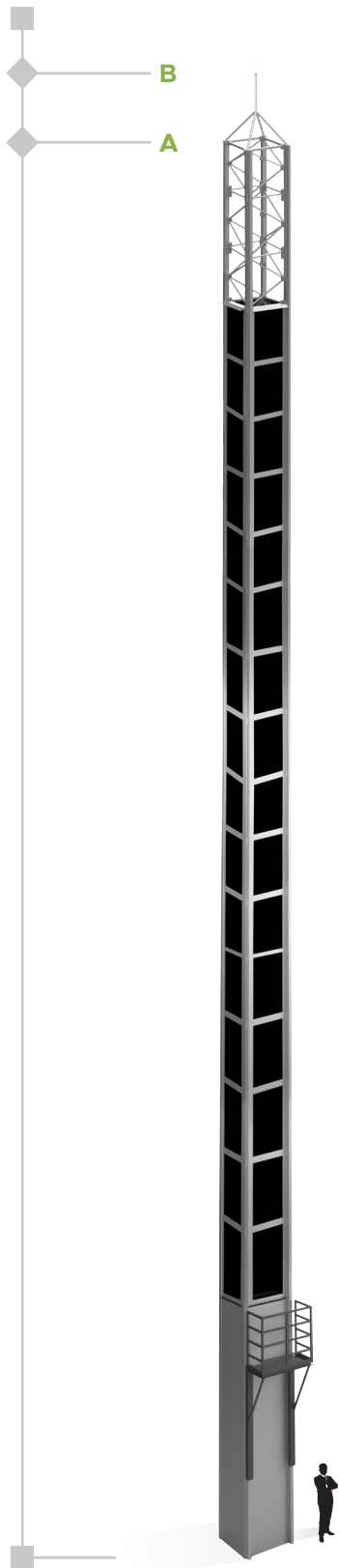
SOLAR	SPT44-S	SPT44-L	SPT77-S	SPT77-L
PV panels Monocrystalline	14.24 kW	28.48 kW	28.48 kW	56.96 kW
Estimated production	3.75 kW	7.5 kW		15 kW
Power supply (max 24h)	1.25 kW	2.5 kW		5 kW

BATTERIES	SPT44-S	SPT44-L	SPT77-S	SPT77-L
Technology	Advanced nano-carbon lead acid with valve control			
Capacity	1000 Ah à 48 Vdc	3 000 Ah à 48 Vdc		6 000 Ah à 48 Vdc
*Lifetime-70%DOD	5 000 cycles			
*Lifetime-30%DOD	10 000 cycles			

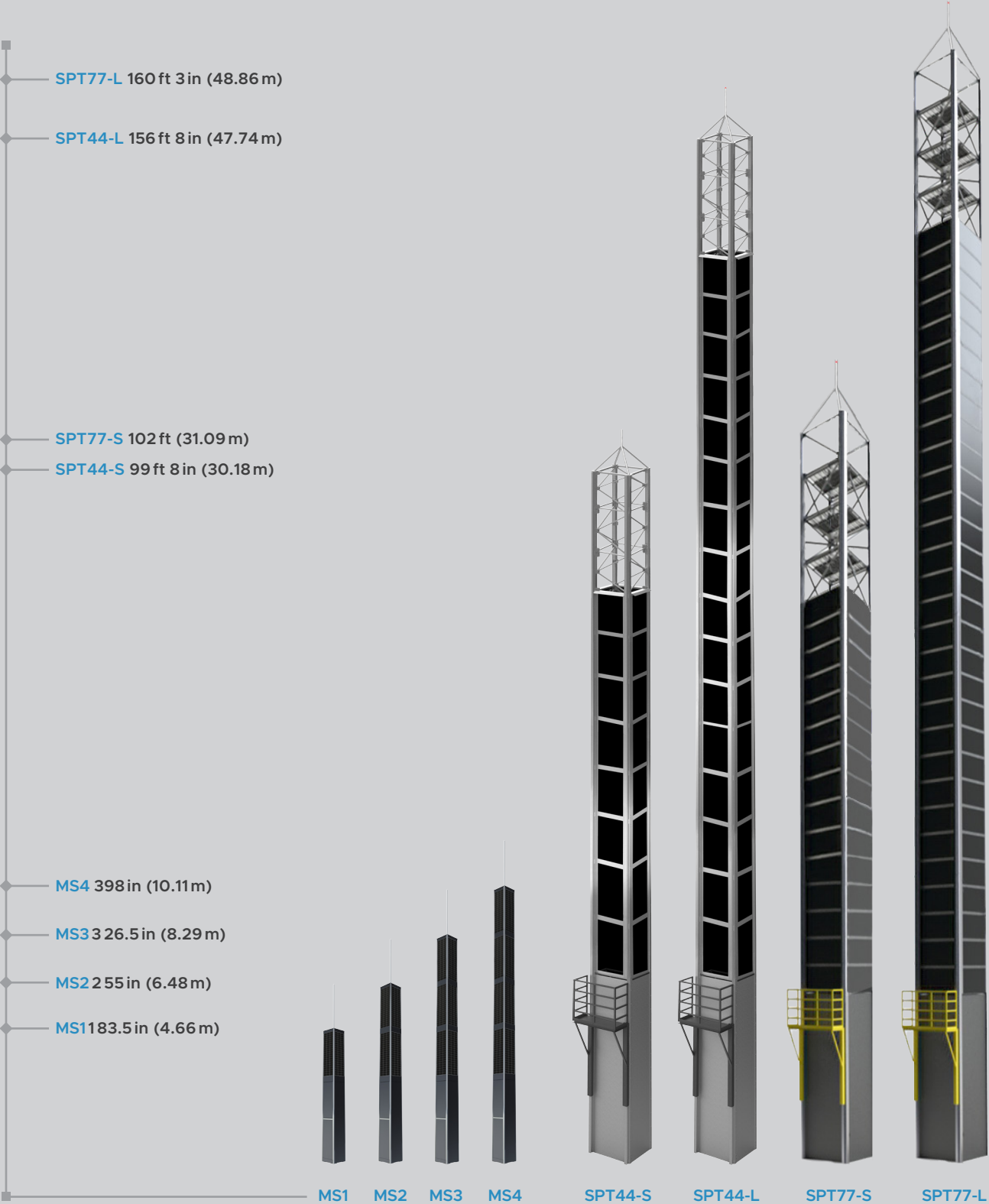
\*DOD = Depth of discharge, expected daily DOD of 23.5% (71.5% when reaching its autonomy) and estimated lifetime of over 25 years.

WIND RESISTANCE	SPT44-S	SPT44-L	SPT77-S	SPT77-L
*Laboratory tests exceed Canadian (CSA-S37-18), American (ASCE-7 + AINSI/TIA-222) and Eurocode (EN 1991-1) standards by considering equipment with a total weight of 1100 lbs (500 kg) and with a surface area equivalent to the PV panels. Engineering specific to each project.				

AVAILABLE OPTIONS
1. LiFePO4 battery
2. Additional structural sections to extend the tower to a maximum height of 203 ft (62m)
3. Hybrid systems (grid or generator)
4. Service elevator



## Because the future is bright.







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