



Safe & Active solution For a responsive and intelligent city

Safety is a key driver in attracting residents, visitors and investments to cities, as it directly impacts a core interest - quality of life. In recent years, however, the world has witnessed too many tragic incidents, with new threats arising from one day to the next. Although cities have done their best to respond to dangerous and violent incidents, Wellness TechGroup has identified two primary shortcomings: First, response time to detected threats is delayed and inefficient; and second, cities are unable to interact in a meaningful way with any prevention assets and systems in place.

The existing city safety management strategy is in desperate need of transformation. Today's approach to security planning does not take into account that the city is a living thing that constantly generates data. Municipal organizations work vertically rather than horizontally, keeping all valuable data separate and siloed. Now more than ever, cities must be able to coordinate with a holistic and multi-vertical perspective that pools data and insight, informing real-time coordination and enabling autonomous response.

SAFITY is a unique Artificial Intelligence solution that has proven it can transform urban safety infrastructure. The approach is based on a City Brain Software Platform, which scans data sources throughout the city in real-time to detect possible risks, threats and attacks. Upon incident detection, the system automatically sets in motion a series of safety and security actions via active city assets.

SAFITY bridges the gap between security bodies, security protocols and city management by centralizing and automating the control of city safety across departments and organizations. The platform is unique in its ability to react immediately and autonomously to real-time security conditions, identifying the optimal series of actions using Artificial Intelligence for the first truly Responsive Smart City 3.0. This novel approach presents a new paradigm about how cities can self-react when faced with an emergency.

The SAFITY solution was successfully piloted in Seville, Spain in 2018 and 2019 during one of the largest celebrations in Spain, Easter Week. In 2017, several juvenile delinquents provoked panic that led to dangerous stampedes and injuries. As a result, local officials engaged with WTG to deploy a safety solution, which was successful both years in intercepting all incidents before escalation.

There are five main pillars that make up the SAFITY solution, the core of which is the **HORIZONTAL IOT PLATFORM**. This advanced analytics platform correlates different variables collected from deployed sensors and visualizes all safety-related elements in the unique dashboard, adding end to end cybersecurity, ensuring integrity of data and actuations. Machine learning techniques applied to historic city data and external data enable the prescription module to predict potential disturbances and prescribe preventative actions to avoid them.

The elements and sensors that feed data to the platform, and with which security officials can interact, are:

SECURITY CAMERAS: Video analysis algorithms for early detection of security issues like stampedes; Pattern recognition among crowds to recognize possible infractions; Identification of suspicious objects.

SMART LIGHTING MANAGEMENT : WeLight is WTG's end-to-end remote management system for city lighting infrastructure. In SAFITY this system is used to apply different color temperature profiles to city lighting according to security needs. In crowded areas, or in case of incidents or emergencies, lights can be changed remotely from warm yellow lighting to bright white lighting, instantly increasing visibility, indicating evacuation routes and ensuring citizen perception of safety.

ASSET TRACKING: Complete control and position monitoring of all kind of assets that are used in safety infrastructure such as barriers, blockades, cones, hydrants, fire extinguishers and defibrillators.



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PUBLIC ANNOUNCEMENT SYSTEM INTEGRATION: Integrated PA system for effective communication with citizens to prevent or react to incidents, giving clear instructions according to a planned protocol.

Upon implementing SAFITY, cities will pre-plan safety protocols more effectively with the platform prescription tool. Safety information will be much more transparent to citizens via communication and by witnessing the interactive solution in action (adaptive color lighting, SMS, PA system, informative screens, etc). Officials will have improved visibility of geo-positioning and status of all devices and assets. Overall, the quality of security services provided by cities to residents and visitors will increase, as will the security and safety ratings of the city itself.

There is increasing pressure on city decision-makers to protect citizens from dangerous situations and health risks like the COVID-19. Cities have begun to recognize the value in horizontal platforms and digital solutions to resolve the challenges being faced within the critical safety and security infrastructure. This shift is reflected in market predictions like the IoT Security Market Report 2017-2022, which shows that investment in security will increase from \$700M USD to \$4,389M USD in the coming years. **Figure 1 in the Annex** shows the spending forecast for devices, communications, cloud and life cycle management.

“Markets and Markets” states that the global public safety market size is expected to grow from \$979M USD in 2018 to \$2,045M USD by 2023, at a Compound Annual Growth Rate (CAGR) of 15,9% during the forecast period.

Even still, SAFITY faces several market barriers that will need to be overcome. An initial challenge is cities' limited financial capacity to invest in this solution for several reasons. First, city budgets are planned in advance, and are assigned to individual city areas or departments. As this solution is cross-cutting, covering multiple areas - namely safety and security, digitalization and culture - it can be difficult to bring together department budgets. As this is an innovative concept, cities may not even consider this kind of solution when creating annual budgets. In order to mitigate this risk, WTG aims to diversify customers to private companies (hotels, gated communities, campuses, theme parks, etc) and international markets. For these customers, WTG will provide a Try and Buy model to demonstrate the impact on quality of life and competitiveness, as well as savings from preventing damage to assets and injured citizens.

In order to facilitate the implementation SAFITY in different markets, the solution is based on open standards and protocols. Through prepared SDKs and APIs, WTG can facilitate a developers community in which local partners can easily adapt the solution to each specific market, adding new considerations to the decision support algorithms that form the backbone of the architecture.

Additionally, some customers may be wary of the effectiveness and ROI of technological solutions. However, the financial success of WTG solutions is well documented, reaching up to 66% yearly cost savings in some Smart City applications, and the company can produce solid data about the returns on our products.

These barriers are specific areas where the G20 can help bring about transformation at the city government level. The G20 can use their influence to raise awareness in cities about the benefits of a Smart Safety Solution and the need to implement a dynamic and autonomous system. By informing and educating cities, the creation of city departments to oversee IoT safety solutions can be encouraged and the vision cities have around how to ensure urban safety can be impacted.

Wellness TechGroup has over 11 years of experience in the IoT sector with in-house solutions deployed in over 500 cities around the world. The company has innovation in its DNA, and constantly works to improve and transform its products. Our solutions are based on low power protocols, ready to be connected to an



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external power source or to an internal battery. Our devices have a life cycle of 10-15 years when using standard configurations, eliminating the need for battery replacement. Our software is open and interoperable, facilitating updates and modifications to increase the longevity of the solution. Experts in the digitalization of cities, in the IoT paradigm, in communications and data analytics, WTG has the knowledge, experience and drive required in this fast-paced sector.

The primary business model for SAFITY will be offering turnkey projects based on the Artificial Intelligence solution. We plan to implement a direct sales model with direct relationships between the public safety managers and our sales teams. Additional actors that will be involved in future steps in the value chain are:

- Current city service providers for specific domains involved in the SAFITY solution like streetlighting. In this case, we have a database of strong partners from our previous experience like Ferroviaria Services, Enel, Acciona, FCC, etc.
- Technology providers who can complement our SAFITY solution with specific safety solutions, especially for the security forces like drones, etc.

As WTG's technology is currently being used extensively by cities, the natural target customer segment for SAFITY is municipal government. This allows the company to take advantage of existing customer relationships to encourage the adoption of the SAFITY solution in cities. Cities already using WTG's Smart street lighting solution WeLight are ideal targets as they already have a core SAFITY element deployed, and have seen the benefits of IoT technology and Smart platforms in city infrastructure.

To the best of our knowledge, there are no other commercial urban safety solutions available based on Artificial Intelligence with real-time threat response. There are companies and corporations in the market with significant capital and resources that offer one dimensional safety solutions. However, the clear competitive advantage of SAFITY is its approach to the city as an active participant with eyes, ears and a brain to react autonomously.

Please see Figure 2 and 3 in the annex for the main competitors and SWOT analysis of SAFITY.

Furthermore, the SAFITY solution combines WTG's own AI Software Platform and existing IoT solutions. As a result, we can guarantee seamless integration between systems and can also price competitively with reduced margins where our competitors typically integrate or subcontract third parties. Our extensive experience in IoT solution deployment means we fully understand the inner-workings of the end customer (city) and how to employ technology to improve the city, and more specifically, its safety infrastructure.

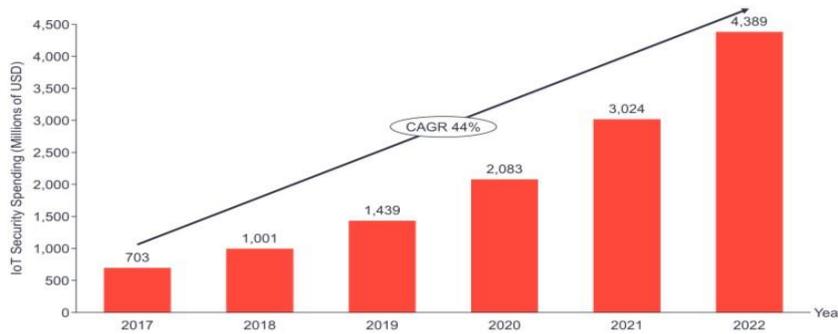
Having evaluated our solution, the market and the global context, WTG feels there is an opportunity to penetrate the market with this innovative and disruptive safety infrastructure solution. Cities are curious about Smart solutions and looking to ensure security, safety and health of residents and visitors to ensure they continue to thrive. With few true competitors in the market, and a solution that has already been proven a success, this is a prime moment for further investment in WTG's key line of business.



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ANNEX

Figure 1



<https://www.marketsandmarkets.com/PressReleases/iot-public-safety.asp>

Figure 2

	Real-time information	GIS	Artificial Intelligence	Cybersecurity	Situational awareness	Video analytics	Lighting management	Horizontal platform	Asset monitoring
Wellness TechGroup	✓	✓	✓	✓	✓	✓	✓	✓	✓
esri	✓	✓	✓	✗	✗	✗	✗	✗	✗
IBM	✓	✓	✓	✓	✓	✗	✗	✓	✓
HITACHI Inspire the Next	✓	✓	✓	✗	✓	✓	✗	✓	✗
Cognify	✓	✓	✓	✓	✗	✓	✗	✗	✗
Atos	✓	✓	✓	✓	✓	✗	✗	✗	✗

Figure 3

<p>STRENGTHS</p> <ul style="list-style-type: none"> - WTG knowledge of city management and in-house product already installed in 400+ cities - WTG product-based solution - AI-based solution - Experienced team with 10+ years working on Smart Cities solutions - Solution tested in a low-scale pilot 	<p>WEAKNESSES</p> <ul style="list-style-type: none"> - Cities have little awareness of urban safety from a holistic management of Smart Cities perspective - Reduced economic resources available for this kind of solution from public sector - Few city officials with the role of Urban security manager with technological background
<p>OPPORTUNITIES</p> <ul style="list-style-type: none"> - New human resources to train how city data can be transformed into valuable information - Momentum: Cities digitalization - Political sensitivity to safety → COVID-19 - Blue ocean market 	<p>THREATS</p> <ul style="list-style-type: none"> - Big players, with big financial capabilities, capable to catch a big market share rapidly - Traditional approach for safety protocols with low interaction with external solutions - Lack of trust into IoT solutions for improving cities management