Tattile

Hi-Performance Mobility Solutions

PIONEERING NEW TECHNOLOGIES

In the Intelligent Transport Systems (ITS) we create innovative solutions for demanding environments

Tattile

What makes Tattile solutions unique

The best synergy between hardware and software

Hardware architecture is specifically designed to offer incredible computational power to the Stark Platform.

Multiple Neural Network Accelerators are designed to execute powerful AI algorithms efficiently.

Artificial Intelligence

The system utilizes AI-powered image analysis that operates at a high frame rate in order to optimize its performance.

Rock solid

Our software is capable of self-diagnosing and repairing itself in many cases.

Our systems are designed to guarantee their execution 24/7 and survive in every weather condition

Integration

System designed to work natively with several external devices and software.

Support for a wide range of standard protocols and formats, making integration easier.

Innovation

We continuously embrace the best technologies to introduce new high-performance applications and functionalities.

Cybersecurity

IEC-62443

ISO-27001

member of:

member of the TKH Group

R&D: Pioneering New Technologies

A team of 48 young and dynamic talents committed to realizing successful ideas.
Through open-mindedness, fairness, constant communication, and exploration of new technologies, we aim to revololutionize the everyday work experience.
We embrace Artificial Intelligence, developing innovative Hardware and new Software tools focusing on products effectiveness and time to market.

Operation: 100% made in Italy

All our cameras are manufactured in Italy and conform to the highest quality standard achieved thanks to a fully integrated design - manufacturing - testing process, which allows us to have complete production control without penalizing flexibility.

Sales: Young & Eager

Totally focused on customer needs. We are organized to support our partners from the beginning and during all project phases, ensuring continuous and effective support.
Requirements collection and validation, PoC, and go live phase, are all the critical moments where we assure pro-active and professional assistance, aiming to provide the best elements to allow our partner to be successful.

Our history and values

Tattile is a **pioneering enterprise** in the vision-tech industry with a clear international scope. Already back in 1988, Tattile engineers successfully developed embedded License Plate Reader (ANPR/ALPR) cameras and later added application software for the ITS, Mobility & Smart City markets to the portfolio.

Since then, Tattile has become a world leader in intelligent traffic monitoring systems.
We are fully engaged in creating high-tech, cutting-edge ANPR (ALPR) and vehicles identification applications mainly based on AI (Artificial Intelligence). These systems fulfill the most demanding applications in the ITS and Big Data Analysis markets.

We are a **globally acting company** that became **part of the TKH group in 2018**.
Our team of internal engineers counts on a vast network of skilled global System Integrators and top-class local partners who contribute to making Tattile a leading company worldwide.

Certification

- IEC-62443
- ISO-27001

Team spirit counts at Tattile. The average team age is 36 years, and an impressive 45% of the team works in R&D, making Innovation, Customer Orientation, and flexibility the core company **values.**

All Tattile traffic cameras, free-flow tolling, and speed enforcement systems comply with strict quality standards, ensuring reliability and cost-efficiency.

Sales Mix

Where we come from, where we are going

1988
1988 Tattile's Foundation year; based in Brescia, Italy, the original team consisted of 4 visionary engineers (one of them still working at Tattile)

2004
First ANPR Mobile camera for NYC Police Force, the image processing module was separated from the camera; in NY, these cameras are still on duty

2005
Tutor: first innovative average speed enforcement system deployed on the Italian highways

2010
Vega 2HD: double head B&W camera, with embedded processing capacity, working at 75 FPS, with an innovative auto trigger system included

2015
ANPR Mobile camera, with embedded image processing capacity, working at 100FPS especially developed for worldwide police applications

2016
Smart & Basic families launch, new modular platform with outstanding embedded processing capacity

2018
Tattile becomes member of stock listed company TKH, a step forward in the consolidation process

2021
Axle counter: the fully optical system, running on the edge, dedicated to axles detection and counting, 99+ accuracy without external trigger, specially developed for free flow applications

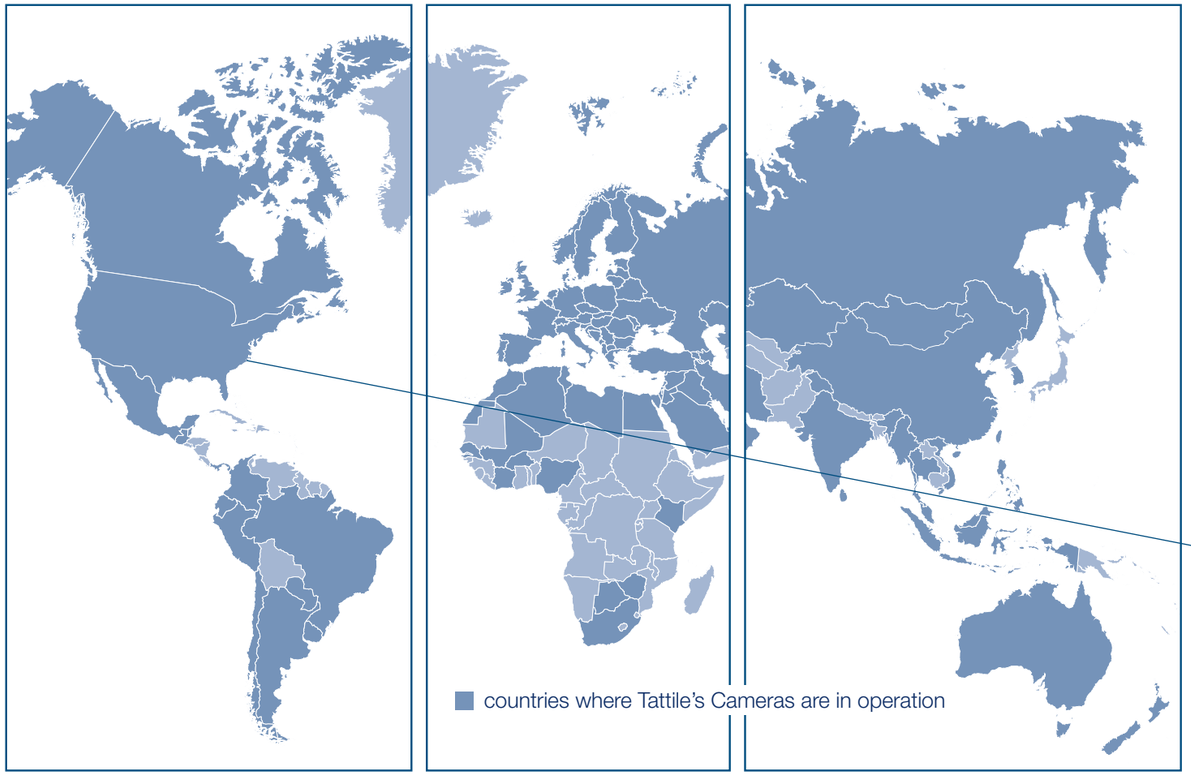
2022
Vega 11 and Vega 33 cameras launch, high-end cameras conceived to host top-performing AI algorithms and Neural Networks

2023
Stark software equips an high range of cameras.
From the Basic MK2 to the brand new Smart+, the most powerful Tattile ANPR camera

Worldwide

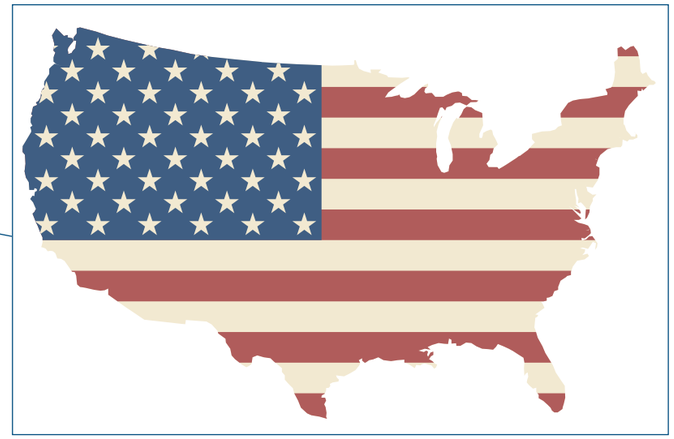
International presence

85.000+
cameras succesfully in operation since 2012



Stark OCR

- Worldwide presence
- 360° support from specs definition until aftersales support
- Support during the performance evaluation phase
- Customizable solutions
- Our internal software team develops all Tattile's OCR
- 75+ countries covered by Tattile OCR
- New OCR libraries can be developed and tested upon request
- Tattile can handle more than one OCR library onboard each ANPR (ALPR) camera; for instance, 28 European countries embedded in one single library



Stark OCR-USA

- Technology: AI - Neural networks
- Execution time <200 ms
- State & Country recognition
- Available on the entire Stark range

Tolling

Tracking

Tolling

All tolling systems have in common that they should process as many vehicles as reliably as possible in the shortest time possible, combined with the option to register and trace the passing vehicles. Tattile ensures adherence to these criteria by pairing its AI-powered cameras with appropriate software for each tolling project.

Free Flow
A completely automated ANPR/ALPR solution, the Multi Lane Free Flow (MLFF) tolling system, is used extensively in electronic tolling collection and in monitoring transit on expressways; allowing drivers to travel without barriers and thus save travel time.

Stop & Go
The embedded solution for tollbooths guarantees an automatised, easy-to-use monitoring system with on-board OCR and no necessary external devices, as well as a stand-alone function in case of disruption in the data connection.

Axle Counter
Axle Counter, with an overall accuracy above 97%, fills the missing link by providing all relevant vehicle information automatically to determine the correct toll for a given vehicle.

Pay by Plate
One major step towards contactless and automatic payment upon connection of the bank data with the license plate; it is pretty common in the automatic carwash and fueling industry.

Congestion Charge
City authorities increasingly implement congestion charge systems as an efficient tool to steer and limit traffic volume.

People Counting
Inside inspection for high occupancy vehicle (HOV) applications.

Tracking

The goals and needs in vehicle tracking can be varied. This encompasses static options and an increasing array of portable setups that allow for monitoring and pursuing potential offenders. The primary prerequisites are license plate identification, other vehicle characteristics, and a server link for instantaneous correlation.

Security Surveillance
Our Number Plate Reading cameras are the solution for urban transit analysis in modern smart cities.
Double Head Tattile cameras, with onboard OCR, real-time transit detection, and color context camera are a functional alternative to CCTV cameras

BCCM
This optional add-on for Tattile cameras with no integration efforts delivers brand, class, color, and model and, together with the license plate, creates the so-called vehicle fingerprint in one single report.

Inside Inspection
Tattile systems enable identifying the number of passengers sitting in the front of the vehicle; information can be used for preferred lanes applications to check if the vehicle uses the correct lane.

Parking
AI-supported Tattile software quickly learns to identify access features of vehicles.

Counting and Occupancy management
Tattile solutions reliably aid in managing occupancy whenever there are restrictions on parking spaces or vehicles within a tunnel.

Enforcement

For traffic enforcement, it is necessary to have reliable measurement equipment and valid evidence of the offense, regardless of weather conditions.
Tattile Speed and Red Light Smart cameras can be adapted to various enforcement scenarios.

- **Radar Speed**
  Tattile Smart+ Speed cameras stand out as the most user-friendly speed enforcement systems available, with effortless installation and operation. These cameras are authentic vehicle identification systems equipped with multi-tracking radar and number plate recognition capabilities.
- **Average Speed**
  Section control or average speed systems are the top choice for speed enforcement over a specific distance, especially in tunnels or extra-urban settings.
- **Railway crossing monitoring**
  Thanks to their intelligent railroad crossing systems, Tattile Smart+ ANPR cameras play a crucial role in safeguarding unmonitored railroad crossings and capturing violations.
- **WIM**
  The combination of weight sensors and Tattile smart cameras in weigh in motion (WIM) systems acts as an early warning system in the stability of the infrastructure and as enforcement system for over-weight vehicles.
- **Mobile parking enforcement**
  Tattile's ANPR Mobile camera enables real-time data collection for efficient parking management.
- **Limited traffic zone & LEZ**
  Tattile's ANPR system ensures accurate vehicle detection and plate recognition, allowing city and local administrations to effectively assign and deny access permits while protecting the environment.

INDEX

Software

Hardware

Stark
the configurable platform of Tattile's cameras!

Stark, Tattile's standard architecture, is a versatile application framework layer integrated into all new generation Tattile cameras.

- It's modular software structure allows for rapid development and easy integration of new features and edge algorithms, making it a flexible and scalable solution.
  With Stark, Tattile cameras can be easily customized to meet specific user requirements and new capabilities can be seamlessly added as needed.

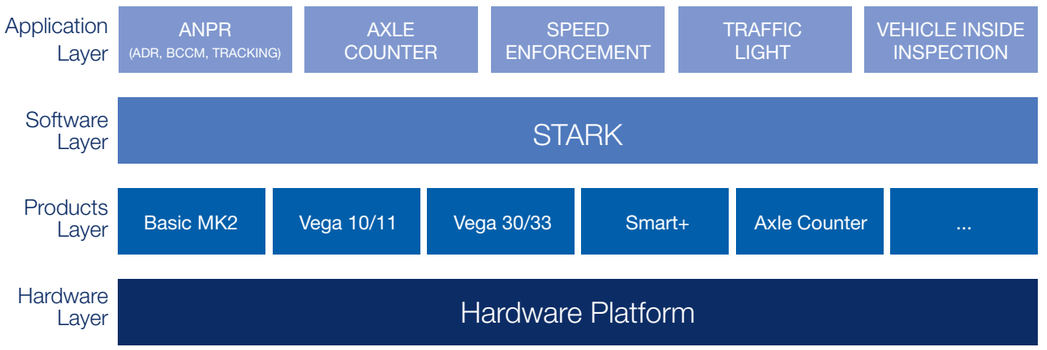
- Stark goes above and beyond in terms of communication protocols, accommodating both standard and legacy options.
  This wide range of supported protocols allows seamless connectivity and compatibility with various systems and devices.

- Stark supports API REST, enabling effortless integration with third-party back-office systems.
  This compatibility facilitates smooth and efficient data exchange, fostering collaboration between Stark and other software solutions for enhanced productivity.

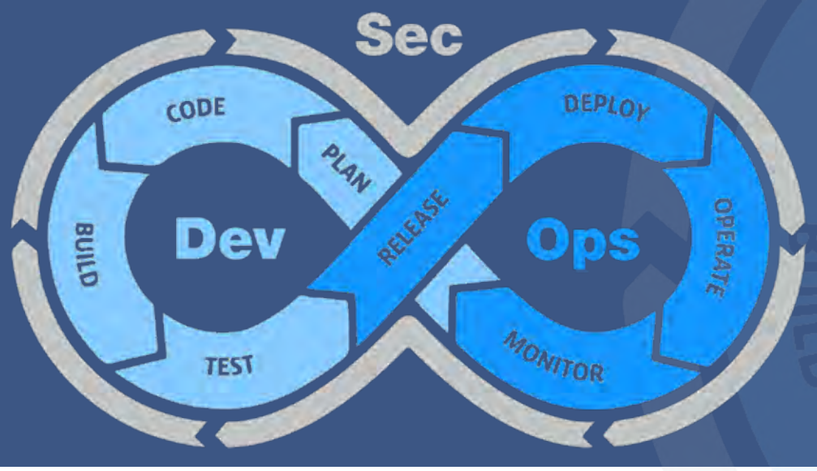
- The user interface of Stark has been meticulously designed to deliver an outstanding user experience.
  It prioritizes simplicity and user-friendliness, making it effortless for users to navigate and operate the system.

- The intuitive interface empowers users to make necessary adjustments and configurations with ease, ensuring a smooth and efficient workflow.

Stark
a new Modular Software Architecture



- Same software architecture **for all Tattile's devices**
- **Secure** by design
- **Cybersecurity** IEC-62443
- **Scalable** to any hardware size
- Open to integrate **different applications**
- Fully **configurable**



Stark:
where Simplicity meets Power

Stark: unique selling points

- **One-time integration**
  Common integration layer used in all Tattile's cameras
  No extra effort for different Tattile's cameras adoption
- **One-time learning**
  Once you learn the Stark interface you are set to all Tattile's cameras
  Easy and friendly interface for not-tech users
- **Common Features**
  Easy integration & maintenance

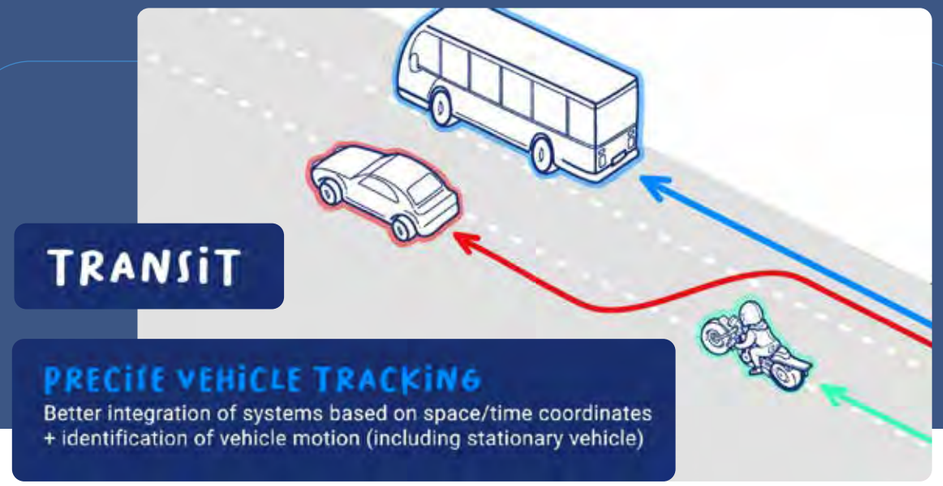
Stark: secure by design

- **Metodology**
  DevSecOps: combining Software Development, Cybersecurity and Operations
- **Tools**
  All software components are automatically tested so they are «secure by design»
  Automated tools for debugging and security bug detection and reporting
- **Cybersecurity Certifications**
  Our devices are **IEC-62443** certified

Stark: Object Detector

Benefits

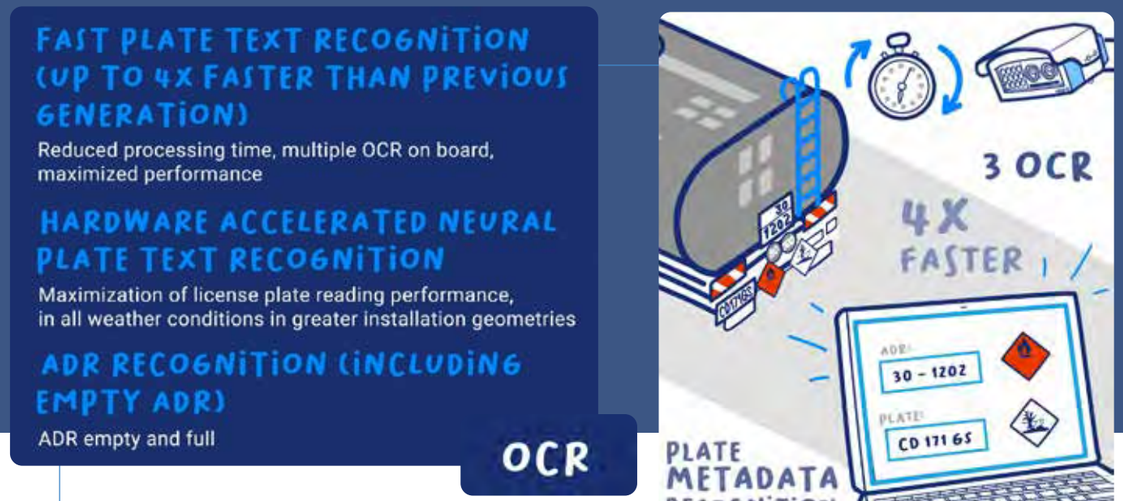
- Vehicle detection, also without plate
- Completely based on AI to achieve the **maximum performance** (>99.5%)
- Precise plate detection for external OCR post-processing
- Suitable also for people or other objects detection on the scene
- Computational time independent from the number of the detected objects in the scene (unlimited detected objects)



Stark: Transit Detector

Benefits

- Precise location of all vehicles and plates in the scene
  - Image pixel coordinates
  - Metric coordinates
  - Timestamp for each detection point
- Multiple points for the same vehicle ➤ moving and stationary vehicle tracking
- Easy transit reconciliation
  - Front + rear cameras detection
  - Integration with data provided by other devices (ex. Laser-scanners, loops, etc)
- Vehicle tracking guarantee in case of temporary shadowing



Stark: Neural OCR

Benefits

- Completely based on AI to achieve the **maximum performance (up to 99.5%)**
- Up to 3 OCR on-board with a dedicated “Fusion algorithm” to select the best reading
- Rich set of metadata recognition ➤ Country, Region, Plate color, Plate type, ...
- 75+ countries covered by Tattile OCR
- Trained with more than 6 million labelled proprietary images
- Server based OCR also available
- The AI detector can recognize Hazardous Material Symbols, making it easier to identify potentially dangerous materials and ensuring safety.

Stark: Rest API

Benefits

- World standard protocol
- Easy and effortless integration
- Documentation with sample available on the camera

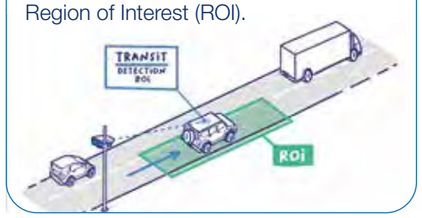
Region of interest (ROI)

With **Stark**, our cutting-edge cameras can detect and generate detailed output on vehicle behaviour within a designated area.
This includes transit detection, stop time, yellow box violations, and turn detection.

ROI application examples:

Transit detection

The camera generates a transit only when vehicles pass through the defined Region of Interest (ROI).



Stop time

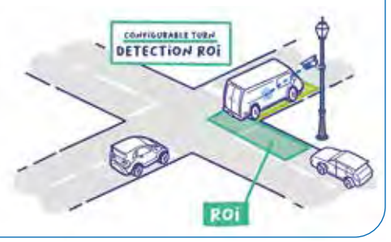
If a vehicle exceeds the specified time in a designated area, such as a loading zone, the camera will monitor the duration and send an alarm or a violation.

Yellow box violation

Through Stark interface, you can set a specific configuration for the yellow box violations

Turn detection

Stark cameras can detect illegal turns and stops, track the vehicle, and read its license plate when it enters or transits a preconfigured region.



Stark, your reliable partner in your journey to success

- **Event filtering:** events auto-configuration if a condition (or a group of conditions) are satisfied
- **Trigger fusion mode:** Stark immediately switches to its internal AI object and transit detector to capture vehicle and license plate information when a malfunction is detected in the external trigger source
- **Diagnostic status notification:** the camera can be set to automatically monitor and notify internal working conditions.
- **Speed estimation:** accurate optical speed estimation of the vehicle
- **Speed sticker:** AI detector to identify speed limit sticker
- **Dynamic privacy zone:** blurring of an image region to hide unwanted details

- **AID Automatic incident detection** functionalities:
  - Wrong-way: Automatically detecting instances of transit in the wrong direction
  - Reversing vehicle: automatic identification of backward driving vehicle
  - Stopped vehicle: automatic identification of temporary vehicle position in a particular ROI
  - Traffic data collection: traffic statistics about road occupancy and traffic distribution
  - Traffic slow-down: automatic identification of changes in vehicle speed

Software

Inside Inspection
Deep inside analysis above expectations

Inside Inspection application provides vehicle frontal occupants detection and counting with an accuracy above 92%.

- AI algorithm for best performance in detection and recognition of vehicle occupancy and, simultaneously, ANPR (ALPR) reading
- On-edge front vehicle seat occupancy detection
- Seat belt and phone use identification for a first screening of suspicious behaviours
- Identification of all passing vehicles without an external trigger
- API REST and standard interfacing provide easy integration and fast deploy
- Fully customisable message format and protocol

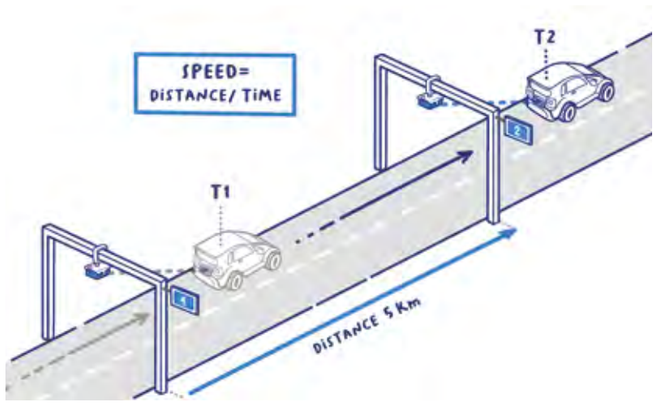
Applications:

- High occupancy vehicle for HOV & Car pooling monitoring
- Tolling enforcement
- Seat belt and phone use detection
- Statistical data collection for safe driving behavior
- Security

Tasc
Containerized distributed average speed system

The central system efficiently monitors all cameras, automatically adopting new cameras and deploying configurations to the entire camera network.
It is OCI Container compliant, allowing independent OS hosting using platforms like Docker, Kubernetes, or OpenShift.
The system is fully configurable by the user, offering customization options for output, events, filters, and more.
It utilizes a DBMS with data encryption for enhanced security. Additionally, the system maintains segregated “production” and “test” environments and supports multi-node execution for horizontal scalability.

- A **reliable** Average & Instant Speed Enforcement solution Optimised for Smart+ family and based on the new Stark platform
- **Secure** by design
- **Scalable** to support unlimited numbers of cameras and thousands of transits per hour
- **Multi-tenant** solution
- **Easy setup & integration** thanks to the API REST interface allows easy integration with multiple Back-office Software
- **Fully configurable** system to adapt to local regulations
- **Independent** Sections configuration speed
- **Welmec 7.2 compliancy** for software-equipped measuring device
- **Increased privacy level** thanks to on-edge data encryption, digital signature, and configurable data access policy
- **Self-diagnostic** and camera diagnostic data collection for maximum system reliability



ADR / ADR empty

Dangerous goods recognition at top level

- Read dangerous goods ADR codes (Kemler codes) providing UN identification number and hazard identifier
- Capability to detect and provide empty ADR code presence
- Available for all cameras Stark compatible
- Fully on-edge solution on Tattile Cameras
- Automatic plate reconciliation incorporating in the same transit message: plate reading, trailer plate, and ADR code
- Can run together with optional Brand Color Class and Model recognition on the same camera to provide complete vehicle identification

Applications:

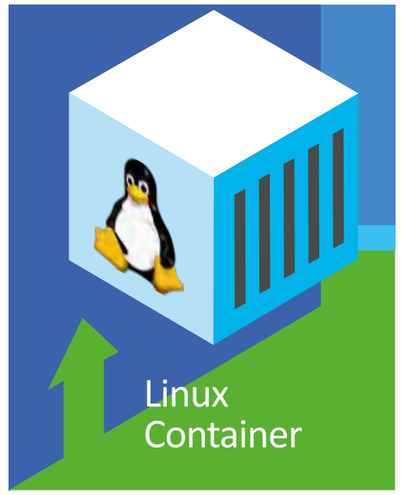
- Tunnels and motorways safety and prompt response
- Traffic monitoring in smart cities
- Forbidden lane enforcement
- Infrastructure monitoring
- Terminals and port logistics
- Parking lot management

Container

An open door to third-party onboard software

The container feature is designed to accommodate third-party applications, providing support for additional functionalities. System Integrator's proprietary applications can be deployed in a distinct environment within the camera, allowing for remarkable customization options and flexibility for Tattile cameras.

- The container functionality supports user-defined additional applications, libraries, web interfaces, and encryption methods. It enables lightweight and rapid deployment of these components on the camera.
- The user application has access to defined camera resources such as local storage, persistent configuration, network, camera processing results
- The System Integrator controls processing results and data management with user-defined communication protocols and storage policies.
- Thanks to Container, customers can reduce bandwidth requirements by implementing user postprocessing on-edge
- Using Container, the System Integrator configures the backup and replication on other cameras via a build-in camera web interface
- Container needs an additional SSD to be installed inside the Tattile camera
- Container is non-suitable for intensive operations (image analysis, image manipulation, …) or direct access to camera resources (sensors and peripherals)



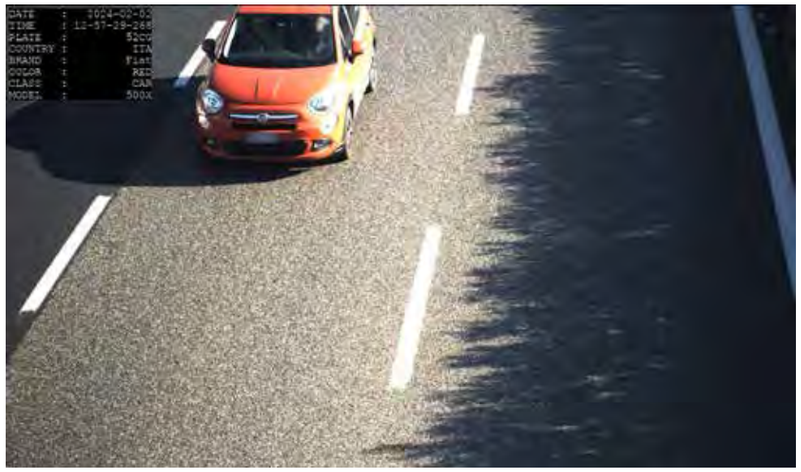
Applications:

- Limited traffic zone customized list management, rules, customized back-office interfacing
- Interfacing with local devices (triggering systems, classification devices,…)
- Customized local security and privacy policies

BCCM

The complete vehicle identification

- On-edge vehicle Brand, Class, Color, and Model recognition algorithm
- Optional add-on for Tattile cameras with no need for external software or processing hardware
- No integration efforts
- License plate, brand, class, color, and model create the so-called vehicle fingerprint in a single report
- The camera provides all the vehicle data in a fully customizable message format and protocol
- Vehicle classification in multiple vehicle classes is operative during the day and optionally during the night
- Hundreds of brands and more than a thousand models provide detailed and reliable vehicle information



Applications:

- Security and vehicle investigation
- Crime enforcement
- Reported vehicle tracking
- Vehicle fingerprinting for tolling
- Smart city vehicle classification
- Reserved lane enforcement

Tattile ACADEMY

- The Academy is the first friendly & innovative point of reference for all customer learning needs.
- The FAQ section offers solutions to frequently asked questions concerning our cameras and their configurations.
- The Academy provides a first level of training, which serves as a foundation or introductory course.
- After completing this initial training, participants have the opportunity to engage in more advanced and personalized training sessions.
- The Academy is the unique point of reference to contact our support team.

academy.tattile.com

FAQ | Training on line | Technical manuals | Tailor made Training

The training is available in the following configurations:

- On line
- At Customer premise
- At Tattile's training school

Tattile's cameras

A wide range of solutions

- Our cutting-edge hardware platform incorporates advanced AI accelerators.
- All cameras undergo thorough in-house testing before delivery to ensure quality.
- We offer a range of cameras segmented based on specific application needs, including lane coverage, FPS, sensors, and CPU.
- Our cameras are ideal for demanding ITS applications, from ANPR to Axle Counter and Inside Inspection.

APPLICATION	SMART+				VEGA				BASIC		ANPR Mobile
	Smart+	Tolling+	Speed+	Traffic Light	Vega 53	Vega 33	Vega 11	Axle Counter	Short Range	Long Range	
TOLLING											
Free Flow (1 lane)	✓	✓✓			✓			✓			
Free Flow (2 lanes)	✓	✓✓									
Stop & Go							✓		✓		
LTZ / LEZ 1 lane					✓	✓				✓	
LTZ / LEZ 2 lanes	✓				✓						
TRACKING											
Tracking 1 lane	✓				✓	✓	✓			✓	
Tracking 2 lanes	✓				✓						
Tracking 3 lanes	✓		✓								
Mobile ANPR											✓
Parking & Acces Control							✓		✓		
ENFORCEMENT											
Red Light				✓							
Speed 3 lanes			✓								
Priority lanes	✓				✓	✓				✓	

INDEX

Hardware

Hardware

Smart+ Family

Scalable hardware architecture to meet increasing workloads

- The entire family is based on Stark platform.
- Up to 2 Hardware AI accelerators.
- LTE and GPS available as optionals.
- SSD from 128GB up to 1TB according to customer needs.
- IP68 protection grade.
- Extended temperature range (-40°/+ 60°C | -40°/+140°F external temperature).
- Extraordinary performance in demanding multi-vehicle and multi-lane applications.
- Modular Platform designed to include various sensors in order to match all the applications required by the most challenging scenarios.
- Modular architecture allows easy customization of the HW platform according to the complexity of the application.
- Devices able to detect and read non-reflective license plate, without any external illuminator.
- Can detect vehicles up to 320 km/h (198 mph).
- New high-quality sensor (up to 8Mpx on the OCR channel).
- Up to 3 lanes coverage with 8Mpx sensor.
- Support for HTTP REST API for easy and standard integration.

FREE FLOW | TOLLING | SECURITY

Smart+

- Compatible with Stark, the new secure by design software architecture, provides a fully parametrizable platform, totally modular, with a multilingual and super user friendly web interface.
- With its AI neural accelerators, Smart+ achieves extraordinary performance in demanding multi-vehicle and multi-lane applications, providing additional acceleration and using, at the same time, multiple algorithms.
- Smart+ is the right product for high-end applications, like multilane free flow tolling, security, and vehicle occupancy.
- It can detect vehicles up to 320 km/h (198 mph) with a detection accuracy level >99,5%.
- Smart+ is equipped with new high-quality sensor (up to 8Mpx on the OCR channel), providing better image quality, and coverage up to 3 lanes.
- Smart+ camera can be easily integrated and connected to external devices using REST API interface, making interaction with external classifiers (laserscanner, radar, loops, etc.), RFID antenna and vehicle's axle information easier.
- The local buffering system and optional local storage let the system work even in case of disruption of data connection, providing safe temporary storage and automatic retrieval of stored data.

	SMART+ 85	SMART+ 55
Software features and Performance		
Software platform	Stark	
AI hw accelerator	Up to 2 hardware accelerators	
Lane Detected	Up to 3 lanes	Up to 2 lanes
Working Distance	Up to 40m - *115 ft*	
Detection	>99.5%	
Reading	Up to 98%	
OCR	Up to 3 ANPR (ALPR) engines on board	
Third party OCR	Optional*	
Classification	Optional*	
Vehicle Color	Optional*	
Vehicle Maker	Optional*	
Vehicle Model	Optional*	
Video Streaming	Color video streaming via standard RTSP protocol (*)	
AES256	Yes	
SHA2	Yes	
Image Compression	JPG	
Streaming Profile	H.264, H.265	
Configuration		
Web Server	Installation and configuration with on board Web Application	
Integration	Support for HTTP REST API	
Date and Hour	Synchronization via NTP protocol or optional GPS	
Software Update	Upgrading via Web Application and integration protocols	
Data Transmission		
Output Action Types	HTTP, HTTPS, FTP, SFTP, TCP RAW, Serial Communication, Local Storage	
Message formats	Fully customizable message formats including JSON, XML, custom string	
Configuration	Configurable events/actions and metadata	
Serial Port	Yes, RS485 full duplex	
Digital output event	Yes	
FTP Server	Yes, access to storage partition	
Op. Mode		
Autotrigger	Self-triggering based on AI image analysis on multiple lanes, even without plates	
Trigger mode	Image capture and processing triggered by Ethernet or digital signal	

	SMART+ 85	SMART+ 55
System		
ANPR (ALPR) camera	8 Megapixels Grayscale	5 Megapixels Grayscale or 5 Megapixels Color (Color Version)
Context camera	5 Megapixels Color	
Illuminator	12 high power LEDs, infrared @ 850 nm	12 high power LEDs, infrared @ 850 nm or white
Lenses	Fixed lens configuration	
Operating System	Linux Operating System	
Custom software	Optional, with Linux container	
Digital I/O	1 Optoisolated input - 1 Relay Output – 2 Strobe output	
IP Protection	IP68	
Ethernet	GigaBit Ethernet 10/100/1000	
Storage	uSD up to 128 GB	
Internal SSD	Optional up to 1TB	
GPS	Optional	
LTE	Optional	
WiFi	Yes	
PSE	Optional	
Technical Data		
Operating & Storage Temperature	From -40° to +60° C - *From -40° to +140° F*	
Operating & Storage Humidity	Up to 95% non-condensing	
Dimensions	290 x 127 x 235 mm - *11.4 x 5.0 x 9.3 in* (excluding antenna and connectors)	
Weight	6,5 Kg - *14.3lbs*	
Power supply voltage	24 Vdc	
Power consumption (typical)	40W (standard config), 50W (full config)	
Power consumption (maximum)	82W	

Part Numbers

Smart+		Smart+ 85	
F02310-000	SMART+ 50	F02322-000	SMART+ 55
F02311-000	SMART+ 80	F02323-000	SMART+ 85

Smart+ Color		Smart+ 55	
F02310-100	SMART+ 50 COLOR	F02322-100	SMART+ 55 COLOR

Hardware

FREE FLOW TOLLING

Tolling+

Born for MLFF tolling

Two AI accelerators for unseen performances

- The Dual AI Accelerator offers a revolutionary solution for challenging multilane free flow (MLFF) tolling applications assuring maximum transit detection performance with an accuracy rate up to 99,9% without using external trigger device.
- Tolling+ camera can detect and evaluate transits using OCR and context channels. This improves the visibility of objects in different working conditions, as it operates in both the infrared and visible fields. This results in better performance in various lighting conditions and for complex objects like license plates that are dirty or damaged.
- It ensures real-time and reliable detection even in high-traffic scenarios, reducing congestion and enabling seamless toll collection.
- Tolling+ is equipped with new high-quality sensor (up to 8Mpx on the OCR channel), providing better image quality and covering up to 2 lanes with overlap in free flow tolling applications.
- Dedicated hardware for AI algorithms allows the camera to achieve unparalleled performance and accuracy.
- Compatible with Stark, the new secure by design software architecture, provides a fully parametrizable platform, totally modular, with a multilingual and super user-friendly web interface.
- It can detect vehicles up to 320 km/h (198 mph) with a detection accuracy level of 99,9%.
- Tolling+ camera can be easily integrated and connected to external devices using REST API interface,making interaction with external classifiers (laser scanner, radar, loops, etc.), RFID antenna and vehicle axle information easier.

	TOLLING+ 55	TOLLING+ 85
Software features and Performance		
Software platform	Stark	
AI hw accelerator	2 hardware accelerators	
Lane Detected	1 lane with overlap	2 lanes with overlap
Working Distance	Up to 40m - 115 ft	
Detection	Up to 99.9%	
Reading	Up to 99.5%	
OCR	Up to 3 ANPR (ALPR) engines on board	
Third party OCR	Optional	
Classification	Optional	
Vehicle Color	Optional	
Vehicle Maker	Optional	
Vehicle Model	Optional	
Video Streaming	Color video streaming via standard RTSP protocol	
AES256	Yes	
SHA2	Yes	
Image Compression	JPG	
Streaming Profile	H.264, H.265	
Configuration		
Web Server	Installation and configuration with on board Web Application	
Integration	Support for HTTP REST API	
Date and Hour	Synchronization via NTP protocol or optional GPS	
Software Update	Upgrading via Web Application and integration protocols	
Data Transmission		
Output Action Types	HTTP, HTTPS, FTP, SFTP, TCP RAW, Serial Communication, Local Storage	
Message formats	Fully customizable message formats including JSON, XML, custom string	
Configuration	Configurable events/actions and metadata	
Serial Port	Yes, RS485 full duplex	
Digital output event	Yes	
FTP Server	Yes, access to storage partition	
Op. Mode		
Autotrigger	Self-triggering based on AI image analysis on multiple lanes, even without plates	
Trigger mode	Image capture and processing triggered by Ethernet or digital signal	

	TOLLING+ 55	TOLLING+ 85
System		
ANPR (ALPR) camera	5 Megapixels Grayscale	8 Megapixels Grayscale
Context Camera	5 Megapixels Color	
Illuminator	12 high power LEDs, infrared @ 850 nm	
Lenses	Fixed lens configuration	
Operating System	Linux Operating System	
Custom software	Optional, with Linux container	
Digital I/O	1 Optoisolated input - 1 Relay Output – 2 Strobe outputs	
IP Protection	IP68	
Ethernet	GigaBit Ethernet 10/100/1000	
Storage	uSD up to 128 GB	
Internal SSD	Optional up to 1TB	
GPS	Optional	
LTE	Optional	
WiFi	Yes	
PSE	Optional	
Technical Data		
Operating & Storage Temperature	From -40° to +60° C *From -40° to +140° F*	
Operating & Storage Humidity	Up to 95% non-condensing	
Dimensions	290 x 127 x 235 mm - *11.4 x 5.0 x 9.3 in* (excluding antenna and connectors)	
Weight	6,5 kg - *14.3lbs*	
Power supply voltage	24 Vdc	
Power consumption (typical)	40W (standard config), 50W (full config)	
Power consumption (maximum)	82W	

Part Numbers

TOLLING+	
F02332-000	Tolling+ 55
F02333-000	Tolling+ 85

SPEED ENFORCEMENT

Smart+ Speed

The most powerful SPEED measurement Smart Camera

- Totally based on Stark, the new secure by design software architecture, provides a fully parametrizable platform, totally modular, with a multilingual and super user-friendly web interface.
- On-edge powerful AI Camera.
- With its top algorithms and on-edge processing power, this AI camera takes enforcement and security to a whole new level, setting new industry standards for accuracy, reliability, and efficiency.
- The Neural plate & vehicle detector algorithm enables it to quickly and accurately identify vehicles of different types, including cars, trucks, and motorcycles.
- POE Radar connection, adjustable with different angles to adapt to different installation scenarios.
- Coverage of up to 3 lanes in the 8Mpx + 5Mpx version.
- Detect vehicle speed up to 320 Km/h (198mph).

	SMART+ SPEED
Software features and Performance	
Software platform	Stark
AI hw accelerator	Up to 2 hardware accelerators
Lane Detected	Up to 3 lanes
Working Distance	Up to 40m - 115 ft
Detection	>99%
Reading	Up to 98%
OCR	Up to 3 ANPR (ALPR) engines on board
Third party OCR	Optional
Classification	Optional
Vehicle Color	Optional
Vehicle Maker	Optional
Vehicle Model	Optional
Video Streaming	Color video streaming via standard RTSP protocol
AES256	Yes
SHA2	Yes
Image Compression	JPG
Streaming Profile	H.264, H.265
Configuration	
Web Server	Installation and configuration with on board Web Application
Integration	Support for HTTP REST API
Date and Hour	Synchronization via NTP protocol or GPS
Software Update	Upgrading via Web Application and integration protocols
Data Transmission	
Output Action Types	HTTP, HTTPS, FTP, SFTP, TCP RAW, Serial Communication, Local Storage
Message formats	Fully customizable message formats including JSON, XML, custom string
Configuration	Configurable events/actions and metadata
Serial Port	Yes, RS485 full duplex
Digital output event	Yes
FTP Server	Yes, access to storage partition

	SMART+ SPEED
Op. Mode	
Autotrigger	Self-triggering based on AI image analysis on multiple lanes, even without plates
Trigger mode	Image capture and processing triggered by Ethernet or digital signal
System	
ANPR (ALPR) camera	8 Megapixels Grayscale
Context Camera	5 Megapixels Color
Illuminator	12 high power LEDs, InfraRed @ 850 nm
Lenses	Fixed lens configuration
Operating System	Linux Operating System
Custom software	Optional, with Linux container
Digital I/O	1 Optoisolated input - 1 Relay Output – 2 Strobe output
IP Protection	IP68
Ethernet	GigaBit Ethernet 10/100/1000
Storage	uSD up to 128 GB
Internal SSD	Optional up to 1TB
GPS	Yes
LTE	Optional
WiFi	Yes
PSE	Yes
Technical Data	
Operating & Storage Temperature	From -40° to +60° C - *From -40° to +140° F*
Operating & Storage Humidity	Up to 95% non-condensing
Dimensions	290 x 323 x 235 mm - *11.4 x 12.7 x 9.3 in* (including antenna and speed sensor)
Weight	8.1 kg - *17.9lbs*
Power supply voltage	24 Vdc
Power consumption (typical)	47W (standard config), 57W (full config)
Power consumption (maximum)	95W

Part Numbers

SMART+ SPEED	
F02363-000	Smart Speed 85

Smart+ Traffic Light

The new generation of AI red light enforcement cameras

- Vehicle trajectory recognition is used to analyze vehicle behavior within the field of view. This provides valuable data for various applications.
- The system can recognize illegal turns and stops, track the vehicle, and read its license plate when it enters or transits through a preconfigured region of interest.
- Smart+ Traffic light is equipped with new high-quality sensor (8Mpx on the OCR channel), providing better image quality, and covering up to 2 lanes.
- Compatible with Stark, the new secure by design software architecture, provides a fully parametrizable platform, totally modular, with a multilingual and super user-friendly web interface.
- The system can detect right turns and exclude turning vehicles from the violation area.
- Virtual Loops can detect violations without the need for road work. The violation line can be set directly in the camera software.
- It can detect vehicles up to 320 km/h (198 mph) with a detection accuracy level of 99%.
- BCCM algorithm available on-board. The camera captures the license plate, brand, class, color, and model to create a complete vehicle fingerprint in a single report.
  The camera provides all the vehicle data in a fully customizable message format and protocol.
- Smart+ Traffic Light identify the red light status through image analysis (without external sensors or connections); therefore the installation and maintenance costs are reduced.

	SMART+ TRAFFIC LIGHT
Software features and Performance	
Software platform	Stark
AI hw accelerator	Up to 2 hardware accelerators
Lane Detected	Up to 2 lanes
Working Distance	Up to 25m - 83 ft
Detection	>99%
Reading	Up to 98%
OCR	Up to 3 ANPR (ALPR) engines on board
Third party OCR	Optional
Classification	Optional
Vehicle Color	Optional
Vehicle Maker	Optional
Vehicle Model	Optional
Video Streaming	Color video streaming via standard RTSP protocol
AES256	Yes
SHA2	Yes
Image Compression	JPG
Streaming Profile	H.264, H.265
Configuration	
Web Server	Installation and configuration with on board Web Application
Integration	Support for HTTP REST API
Date and Hour	Synchronization via NTP protocol or GPS
Software Update	Upgrading via Web Application and integration protocols
Data Transmission	
Output Action Types	HTTP, HTTPS, FTP, SFTP, TCP RAW, Serial Communication, Local Storage
Message formats	Fully customizable message formats including JSON, XML, custom string
Configuration	Configurable events/actions and metadata
Serial Port	Yes, RS485 full duplex
Digital output event	Yes
FTP Server	Yes, access to storage partition

	SMART+ TRAFFIC LIGHT
Op. Mode	
Autotrigger	Self-triggering based on AI image analysis on multiple lanes, even without plates
Trigger mode	Image capture and processing triggered by Ethernet or digital signal
System	
ANPR (ALPR) camera	8 Megapixels Grayscale
Context Camera	5 Megapixels Color
Illuminator	12 high power LEDs, infrared @ 850 nm
Lenses	Fixed lens configuration
Operating System	Linux Operating System
Custom software	Optional, with Linux container
Digital I/O	1 Optoisolated input - 1 Relay Output – 2 Strobe output - Optional I/O Extension Module
IP Protection	IP68
Ethernet	GigaBit Ethernet 10/100/1000
Storage	uSD up to 128 GB
Internal SSD	Optional up to 1TB
GPS	Yes
LTE	Optional
WiFi	Yes
PSE	Yes
Technical Data	
Operating & Storage Temperature	From -40° to +60° C - *From -40° to +140° F*
Operating & Storage Humidity	Up to 95% non-condensing
Dimensions	290 x 127 x 235 mm - *11.4 x 5.0 x 9.3 in* (excluding antenna and connectors)
Weight	6,5 kg - *14.3lbs*
Power supply voltage	24 Vdc
Power consumption (typical)	40W (standard config), 50W (full config)
Power consumption (maximum)	82W

Part Numbers

SMART+ TRAFFIC LIGHT	
F02343-000	Smart Traffic Light

Vega Family

An advanced modular platform born to host AI applications, being performant and flexible

- **STARK** compatible. Stark, the new secure-by-design software architecture, provides a fully parametrizable platform, totally modular, with a multilingual and super user-friendly web interface.
- The hardware platform is designed with the scalability needed to adapt to multiple applications; it supports different computing needs, even the most challenging, thanks to internal extensibility.
- Vega family comes with easy-to-integrate protocols for seamless and cost-effective adoption.
- Simple installation and connection with cable glands and PoE+ for selected devices.
- Internal sensors for anti-tampering and advanced camera diagnostic management.
- Highly sensitive imaging sensors and high-quality components to maximize performances lifecycle and reduce downtime to zero.
- Pre-configured multiple lens options to provide the best image quality and no additional installation efforts.
- Extended temperature range and weather-proof housing (-40°/+ 60°C | -40°/+140°F external temperature, IP-68) Additional optional internal SSD storage from 128GB up to 1TB according to customer needs.
- Precise positioning with optional integrated GPS module.
- Optional LTE module for continuous connectivity and operating in remote locations.

Axle Counter

- Onboard AI processing
- Self-triggering
- Vehicle reconstructed image
- Fully customizable
- Intuitive user interface
- API REST compliant

The new concept of axle counting based on Artificial Intelligence

Axle Counter is targeted to free flow tolling applications; with aboveground layout, no road works are needed for installation and maintenance and no distraction for the drivers, thanks to the infrared illumination.

An on-board dedicated neural network processor allows fast image processing capability to detect vehicles and their characteristics, such as axles, raised axles status and speed estimation, at any time of the day and of the night.

Axle Counter system doesn't require external triggering, it detects transits by image analysis thanks to its processing capability. Optionally, Axle Counter can be triggered by different triggering sources, allowing flexible interfacing with existing devices and perfect integration with Tattile devices.

Axle Counter supports HD video streaming.

Axle Counter provides the resulting metadata together with the reconstructed image of the vehicle, giving evidence of the transit to the tolling operators.

Axle Counter through his image analysis is able to detect:
- Raised axles
- Twins wheels

Optional: Expandable local storage / GPS / WIFI

	AXLE COUNTER
Software features and Performance	
Processed Lane	1
Installation	Gantry
Installation height	7m (typical) - 23ft
Detection accuracy	99%
Managed vehicles	Up to 2400 v/hour
Axles counting accuracy	>95% over 4 classes (2,3,4,5+ axles)
Raised axles detection	Yes
Twin wheels detection	Yes
Speed estimation	Yes
Processing	Onboard processing
AES256	Yes
SHA2	Yes
Data buffering and storage	Yes
Compression	JPG
Configuration	
Web Server	Installation and configuration with on board Web Application
Integration	REST and binary protocol available
Date and Hour	Synchronization via NTP protocol or optional internal GPS
Software Update	Upgrading via Web Application and integration protocols
Data Transmission	
FTP	FTP Client mode for remote data transmission
Standard protocols	REST and binary protocol
Configuration	Actions and content customizable
Serial Port	Insulated RS485
Operating Mode	
Autotrigger	Self triggering based on image analysis
Trigger Ethernet	Image capture and processing triggered by Ethernet with start and stop message
Trigger Input	Image capture and processing triggered with start and stop digital signal

	AXLE COUNTER
System	
Image capture sensor	2 Megapixels grayscale
Illuminator	Infrared External Illuminator
Lenses	Fixed lens configuration
Operating System	Linux Operating System
Digital I/O	2 Inputs – 2 Outputs – 1 Strobe output
IP Protection	IP68
Ethernet	Gigabit Ethernet 10/100/1000
Storage	uSD up to 128 GB
Vandal proof Connector	Yes
Antitamper sensor	Yes
Internal SSD	Optional, up to 1TB
GPS	Optional
Wifi	Optional
Technical Data	
Operating & Storage Temperature	From -40° to +60° C - From -40° to +140° F
Operating & Storage Humidity	Up to 95% non condensing
Dimensions	225x244x132mm
Weight	3,6kg
Power supply voltage	24 Vdc
Power consumption	24W

Part Numbers

AXLE COUNTER SYSTEM	
F02002-000	Axle Counter Camera
F01920-000	External IR Illuminator

Vega53

Hi-end camera expressly developed to cover, with outstanding performances, all the requirements in free flow tolling, traffic monitoring and security

- Thanks to its high-level sensor on both the OCR and Context channels, as well as its impressive hardware performance, Vega53 is ideal for demanding ANPR applications like free-flow tolling.
- Vega53 camera is a specialized system that meets the demands of one-lane free-flow tolling, traffic monitoring, and security. It can cover up to two lanes (1 lane + overlap for tolling) and detect vehicles travelling at high speed.
- Vega53 is equipped with Stark, the game-changer software platform for the new generation of Tattile's ANPR cameras.
- Stark is the first software platform secure by design, designed and developed to resist the harshest cyber attack. It's100% configurable to suit the customer's needs, and support multiple applications to run at the same time.
- The camera has a high-power integrated infrared illuminator to support demanding performances such as multiple countries' plate recognition with optimal reading performances even in high complexity scenarios (reflective, non-reflective, coloured plates with multiple charset support).
- Vega53 camera has not only ANPR (ALPR) functionality but also the capability to add vehicle color, brand, class and model identification.
  Moreover, it can support HD video streaming for surveillance, eliminating the need for additional CCTV cameras.
- Vega53 can be easily integrated into management systems through its REST API.

	VEGA53
Software features and Performance	
Lane Detected	Up to 2, depending on layout
Working Distance	Up to 35m - 115 ft
Detection	>99%
Reading	Up to 98%
OCR	ANPR (ALPR) engine on board
Third party OCR	Optional
Classification	Optional (*)
Vehicle Color	Optional (*)
Vehicle Maker	Optional (*)
Vehicle Model	Optional (*)
Video Streaming	Color video streaming via standard RTSP protocol (*)
AES256	Yes
SHA2	Yes
Image Compression	JPG
Streaming Profile	H.264, H.265
Configuration	
Web Server	Installation and configuration with on board Web Application
Integration	Support for HTTP REST API
Date and Hour	Synchronization via NTP protocol or optional internal GPS
Software Update	Upgrading via Web Application and integration protocols
Data Transmission	
FTP	FTP Client mode for remote data transmission
Standard protocols	REST and binary protocol, XML, SNMP, NTCIP, Customizable message format
Configuration	Configurable events/actions and metadata
Wiegand	No
Serial Port	Insulated RS485 / RS422
Op. Mode	
Free Run	Self triggering based on image analysis, even without plates
Trigger mode	Image capture and processing triggered by Ethernet or digital signal

	VEGA53
System	
ANPR (ALPR) camera	5 Megapixels Grayscale or 5 Megapixels Color (Color Version)
Context Camera	3 Megapixels Color
Illuminator	12 high power LEDs, infrared @ 850 nm or white
Lenses	Fixed lens configuration
Operating System	Linux Operating System
Custom software	Optional
Digital I/O	2 Optoisolated input - 2 Relay Output – 1 Strobe output
IP Protection	IP68
Ethernet	GigaBit Ethernet 10/100/1000
Storage	uSD up to 128 GB
Internal SSD	Optional up to 1TB
Vandal proof Connector	Yes
Antitamper sensor	Yes
GPS	Optional
LTE	Optional
WiFi	Yes
Technical Data	
Operating & Storage Temperature	From -40° to +60° C - *From -40° to +140° F*
Operating & Storage Humidity	Up to 95% non-condensing
Dimensions	225 x 244 x 132 mm - *8.6 x 9.6 x 5.2 in*
Weight	3,6 kg - *8 lbs*
Power supply voltage	24Vdc
Power consumption	35W

Also available in single channel version (OCR)

** Functionality available only in the dual channel version (OCR + context)*

Part Numbers

VEGA53	
F02021-000	Vega53

Hardware

SINGLE LANE TRACKING | CONGESTION CHARGE

Vega33 | Vega11

The new generation of AI-based ANPR cameras

- **STARK** compatible. Stark, the new secure-by-design software architecture, provides a fully parameterizable platform, totally modular, with a multilingual and super user-friendly web interface.
- With full onboard image capture and processing, Vega camera provides outstanding performances and flexibility for all ANPR and vehicle identification tasks.
- Vega Family cameras automatically detect vehicles thanks to its internal STARK Object detector.
- The camera has a high-power integrated infrared illuminator to support demanding performances such as multiple countries plate recognition with optimal reading performances even in high complexity scenarios (reflective, non-reflective, colored plates with multiple charset support).

- Built-in self-triggering based on image processing
- Low energy consumption with PoE+ on selected models for an easy installation
- Easy integration with REST API interface
- Optional Brand Class Color and Model recognition
- Internal buffering and optional storage for off-line operations Optional high-quality video streaming

- Thanks to its design, together with the IP68-grade, high temperature range, optional LTE, and expandable local storage, the camera can operate in remote and harsh environmental conditions.
- Integration in Back-office Software and Video Management Systems can be easily achieved with REST API interfacing, multiple configurable protocols, metadata, and image options.

	VEGA 10	VEGA 11	VEGA 30	VEGA 33
Software features and Performance				
Lane Detected	1		Up to 2, depending on layout	
Working Distance	Up to 25m - 83 ft		Up to 35m - 115 ft	
Detection	>99%			
Reading	up to 98%			
OCR	ANPR (ALPR) engine on board			
Third party OCR	Optional			
Classification	No	Optional	No	Optional
Vehicle Color	No	Optional	No	Optional
Vehicle Marker	No	Optional	No	Optional
Vehicle Model	No	Optional	No	Optional
Video Streaming	No	Color video streaming via standard RTSP protocol	No	Color video streaming via standard RTSP protocol
AES256	Yes			
SHA2	Yes			
Compression	JPG			
Configuration				
Web Server	Installation and configuration with on board Web Application			
Integration	REST and binary protocol available			
Date and Hour	Synchronization via NTP protocol		Synchronization via NTP protocol or optional internal GPS	
Software Update	Upgrading via Web Application and integration protocols			
Data Transmission				
FTP	FTP Client mode for remote data transmission			
Standard protocols	REST and binary protocol, XML, SNMP, NTCIP, Customizable message format			
Configuration	Configurable events/actions and metadata			
Wiegand	Optional		No	
Serial Port	Insulated RS485 / RS422			
Operating Mode				
Free Run	Self triggering based on image analysis, even without plates			
Trigger mode	Image capture and processing triggered by Ethernet or digital signal			

	VEGA 10	VEGA 11	VEGA 30	VEGA 33
System				
ANPR (ALPR) camera	2 Megapixels Grayscale		3 Megapixels Grayscale 3 Megapixels Color (Color Version)	
Context camera	No	2 Megapixels Color	No	3 Megapixels Color
Illuminator	8 high power LEDs, InfraRed @ 850 nm		12 high power LEDs, InfraRed @ 850 nm or white	
Lenses	Fixed lens configuration			
Operating System	Linux Operating System			
Custom software	No	Optional		
Digital i/o	2 Optoisolated input - 2 Relay Output – 1 Strobe output			
IP Protection	IP68			
Ethernet	GigaBit Ethernet 10/100/1000			
Storage	uSD up to 128 GB			
Vandal proof Connector	Yes			
Antitamper sensor	Yes			
Internal SSD	No	Optional up to 1TB		
GPS	No	Optional		
LTE	No	Optional		
WiFi	Optional			
Technical Data				
Operating & Storage Temperature	From -40° to +60° C - *From -40° to +140° F*			
Operating & Storage Humidity	Up to 95% non condensing			
Dimensions	225 x 132 x 244 mm - *8.85 x 5.2 x 9.6 in (WxHxL)*			
Weight	3,6 kg - 8 lbs			
Power supply voltage	24 Vdc, PoE+		24Vdc	
Power consumption	25W		30W	

Part Numbers

Vega 10-11		Vega 30-33	
F02010-000	Vega 10	**F02001-000**	Vega 30
F02011-000	Vega 11	**F02000-000**	Vega 33

Basic MK2 Family

The Basic MK2 family is built around a small case for big reliability in ANPR applications

- Mainly targeted to stop & go tolling, parking and access control systems, the Basic line features a Power over-Ethernet (POE+) interface for minimizing the installation and maintenance time.
- New generation full HD sensor for reading reflective and non-reflective plates.
- Extra compact size to reduce the installation impact. Basic MK2 is easy to install and does not require an external IR lighting.
- Stand alone: thanks to local buffering of information, the system is able to function also in case of disruption in the data connection.
- Four time faster than the previous Vega Basic generation.
- Vandal-proof connectors.

Basic MK2 Family Application

- Stop & Go tolling
- Parking
- Access control
- Urban road tracking
- Congestion charge
- Access control to limited traffic areas

PARKING ACCESS CONTROL - STOP & GO TOLLING

Basic MK2

- STARK compatible. Stark, the new secure-by-design software architecture, provides a fully parameterizable platform, totally modular, with a multilingual and super user-friendly web interface.
- The processing capacity of the new CPU makes Basic MK2 four times faster than the previous Vega Basic.
- Equipped with the innovative AI Vehicle and Plate detector.
- Mainly targeted to stop & go tolling, parking and access control systems, with a maximum input power of 25W, Basic MK2 line features a Power-over-Ethernet (POE+) interface for minimising the installation and maintenance time.
- Extra compact size to reduce the installation impact.
- Basic MK2 automatically stores the images in the local storage in case of a lack of data connection. Once the network is restored, Basic MK2 will release the stored images avoiding losing transits.

	Basic MK2	Basic MK2 Color
Software features and Performance		
Software platform	Stark	
AI hw accelerator	1 hardware accelerator	
Lane Detected	1	
Working Distance	Up to 25m - *83 ft*	Up to 15m - *50 ft*
Detection	>99%	
Reading	Up to 98%	
OCR	ANPR (ALPR) engine on board	
AES256	Yes	
SHA2	Yes	
Image Compression	JPG	
Configuration		
Web Server	Installation and configuration with on board Web Application	
Integration	REST and binary protocol available	
Date and Hour	Synchronization via NTP protocol	
Software Update	Upgrading via Web Application and integration protocols	
Data Transmission		
Output Action Types	HTTP, HTTPS, FTP, SFTP, TCP RAW, Serial Communication, Local Storage	
Message formats	Fully customizable message formats including JSON, XML, custom string	
Configuration	Configurable events/actions and metadata	
Serial Port	Yes, RS485 half duplex	
Digital output event	Yes	
Wiegand	Yes	
FTP Server	Yes, access to storage partition	
Op. Mode		
Autotrigger	Self-triggering based on AI image analysis, even without plates	
Trigger mode	Image capture and processing triggered by Ethernet or digital signal	

	Basic MK2	Basic MK2 Color
System		
ANPR (ALPR) camera	2 Megapixels grayscale	2 Megapixels color
Illuminator	8 high power infrared LEDs	8 high power white LEDs
Lenses	Fixed lens configuration	
Operating System	Linux Operating System	
Digital I/O	2 Optoisolated input - 2 Relay Output – 1 Strobe output	
IP Protection	IP67	
Ethernet	GigaBit Ethernet 10/100/1000	
Storage	uSD up to 128 GB	
Vandal proof connector	Yes	
WiFi	Optional	
Technical Data		
Operating & Storage Temperature	From -40° to +60° C - *From -40° to +140° F*	
Operating & Storage Humidity	Up to 95% non condensing	
Dimensions	178 x 90 x 133 mm - *7 x 3.5 x 5.2 in* (WxHxL)	
Weight	1.5 kg - *3.3 lbs*	
Power supply voltage	24 Vdc, PoE+	
Power consumption	25W	

Part Numbers

Basic MK2	
F02200-200	Basic MK2 Short range
F02200-300	Basic MK2 Long range

Basic MK2 Color	
F02201-200	Basic MK2 Short range color
F02201-300	Basic MK2 Long range color

ENFORCEMENT

ANPR Mobile

- ANPR Mobile is the smart solution to prevent crime, offered as an aid to Police Forces.
- It is an evolved and modern license plate reading system, installed on the cars of specialized operational departments and/or intelligence services, as support to surveillance and protection, serving as a tireless watchful eye on the road.
- ANPR Mobile is the latest generation system with Megapixel sensors that can scan up to 60 frames per second, front and rear, in any light condition.
- It is part of the sophisticated Tattile ANPR/ ALPR (Automatic Number Plate Reader) All On Board camera family, to read license plates in movement.

- Wi-Fi data transmission from the unit to the pc/tablet
- GPS on board
- Embedded licence plate analysis (OCR on board)
- Real-time processing: up to 60 fps

Software Features

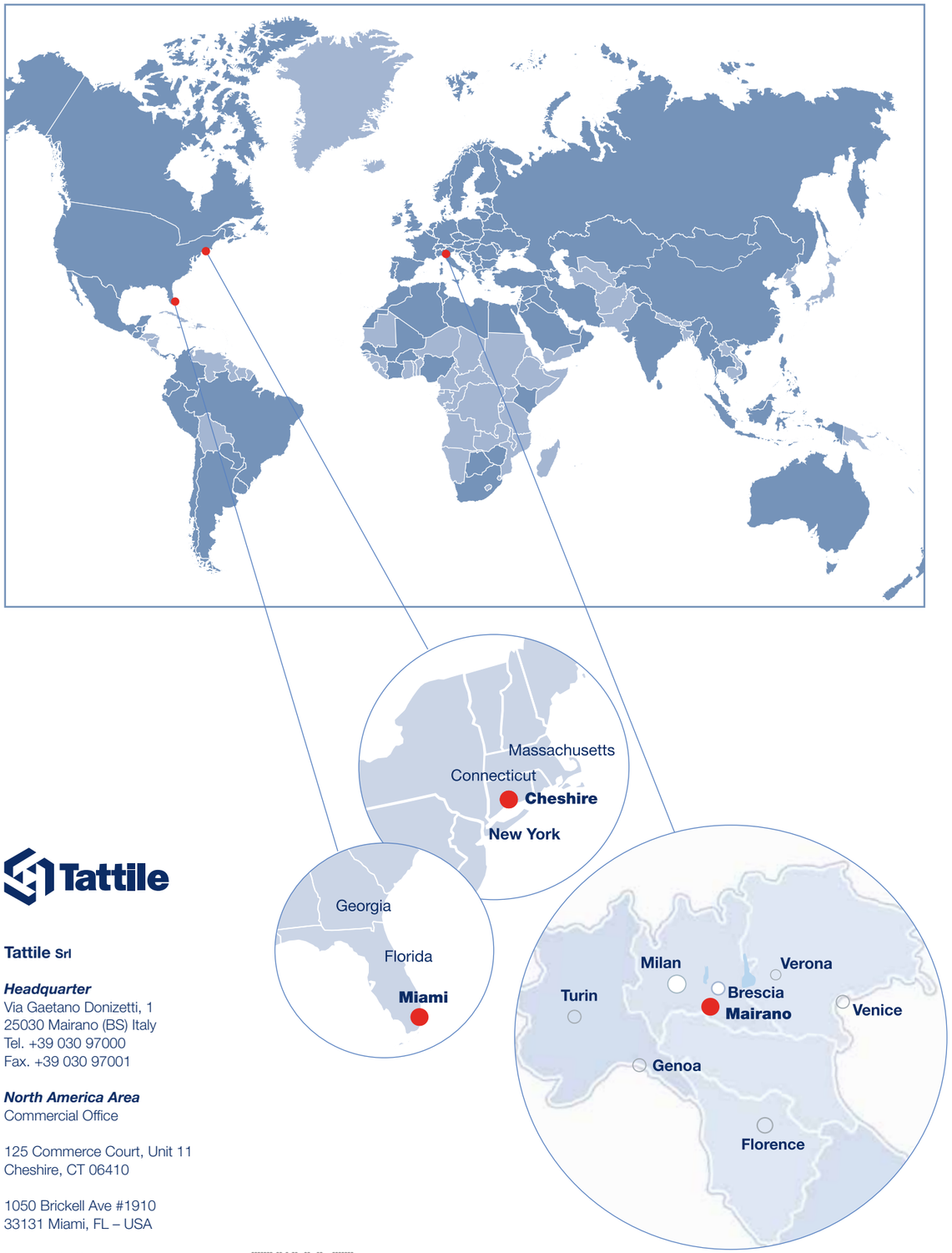
	ANPR Mobile
Licence Plate Recognition	
OCR	ANPR (ALPR) engine on board
Configuration	
Web Server	Installation and configuration by Web Server on board
TCP/IP Server	Configuration and monitoring through TCP/IP protocol
Date and Hour	Synchronization via SNTP protocol or GPS
Software Update	Upgrading via Web Interface and SDK
Data Transmission	
FTP	FTP Client to FTP Server mode for remote data transmission; two IP address management
TCP/IP	Tattile TCP/IP open protocol; two IP address management
Streaming	Video streaming via standard RTSP protocol
Operating Mode	
Free Run	Continuous processing with automatic plate detection

Technical Data

	ANPR Mobile
System	
ANPR (ALPR) camera	1920 x 1080 Monochrome CMOS sensor
Context camera	1920 x 1080 Color CMOS sensor
Illuminator	Short range: 6 LEDs High power infrared @ 850nm
	Medium/long range: 10 LEDs High power infrared @ 850nm
Lenses	C-Mount. Many focal length available
Operating System	Linux
Connectors	Waterproof circular connector
Network	Fast Ethernet 10/100 and WiFi 802.11 b/g/n
Storage	Up to 128 GB
Environment, Size, Power	
Operating & Storage Temperature	From -30° to +60° C / -22° to +140° F
Operating & Storage Humidity	Up to 95% non condensing
Dimensions	178 x 76 x 141 mm - 7 x 3 x 5.5 in (WxHxL)
Weight	1,650 Kg - 3.63 lbs
Protection	Waterproof IP66/IP67
Power supply voltage	12 Vdc
Power consumption	15 W

Part Numbers

ANPR Mobile	
F01710	ANPR MOBILE SYSTEM short range
F01845	ANPR MOBILE SYSTEM medium range
F01696	ANPR MOBILE SYSTEM long range



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