



**TechnoVector Group**

# **TechnoVector 8 Contactless: SmartLight / Velox**

Wheel Alignment Systems

*Precision in Motion*

# OUR HISTORY



1997

First wheel aligner had been produced



2005

Production of TechnoVector 5 CCD wheel aligners with PRRC (Precise Rolling and Runout Compensation) technology.



2009

Introduced our first 3D wheel aligner for cars: TechnoVector 7 with WideScope technology.



2012

The mobile wheel aligner TechnoVector 6 with 3D Free Motion technology allowing smaller workshops to use the benefits of 3D technology.



2013

The first worldwide 3D wheel aligner for trucks had been introduced.

2016

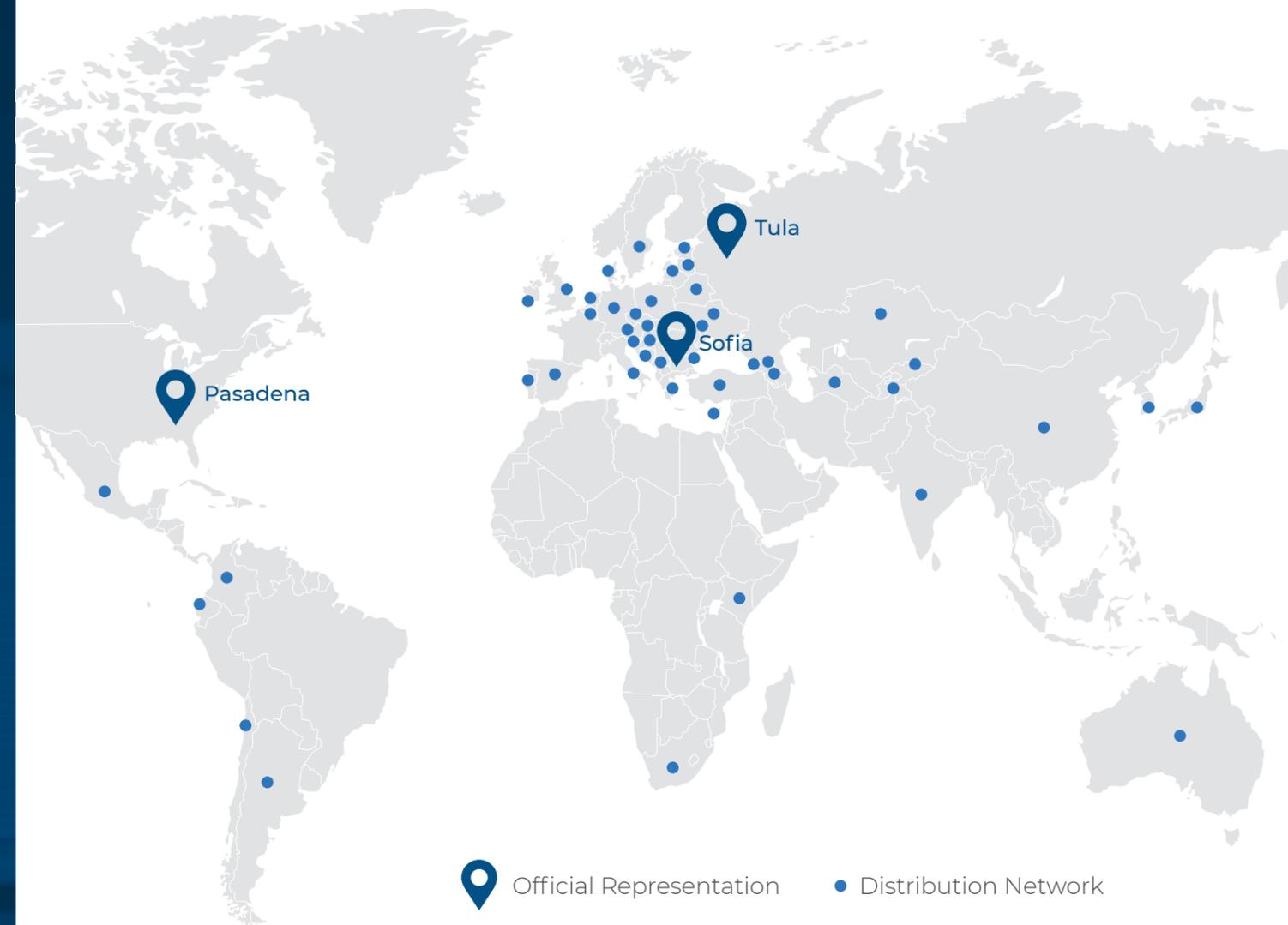
Released the 5-camera 3D mobile wheel aligner for cars and trucks and the 3-camera cars mobile aligner.

2018

New unique Contactless wheel aligner TechnoVector 8 with SmartLight technology.

*Precision in Motion*

# GLOBAL PRESENCE



## TECHNOVECTOR INC.

USA 10535, Red Bluff Rd, Pasadena, TX, 77507.  
 Status: Official representation in the USA  
[technovector.us](http://technovector.us)

## TECHNOCAR LLC

300020 Russia, Tula,  
 Zheleznodorozhnaya st., 55.  
 Status: Headquarter  
 and main production  
[technovector.ru](http://technovector.ru)

## TECHNOVECTOR EUROPE

21, Oborishte str.,  
 1504 Sofia, Bulgaria.  
 Status: Official representation  
 in Europe  
[technovector.com](http://technovector.com)

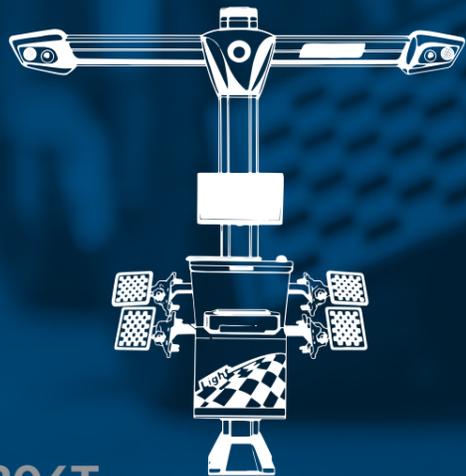
# WHAT WE PRODUCE

## MANUFACTURING

- Technovector is ISO 9001:2015 certified with production facilities of 86000 sq.ft. (8000 sq.m.) located in the area of 215000 sq.ft. (20000, sq.m.).
- All main components of Technovector wheel aligners such as cameras, consoles, measuring blocks, metal parts, etc., are designed by TechnoVector Group and manufactured at own production plant.
- All products are the origin of Russia and the EU.

## INNOVATIONS

Groundbreaking technologies such as PRRC, WideScope, and SmartLight have become worldwide unrivaled. The only industry manufacturer who produces all types of wheel alignment systems: 3D, CCD, Touchless. Company is the only producer of Heavy Duty vehicle reliable Machine Vision System.



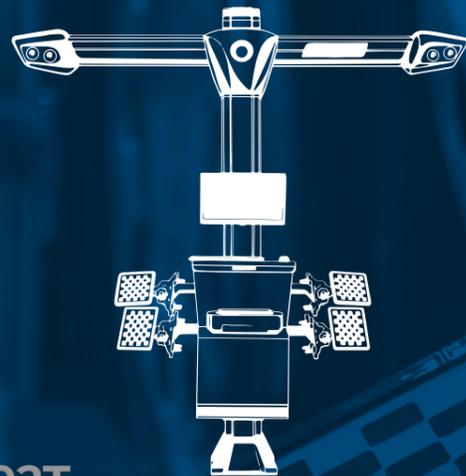
### 7204T TECHNOVECTOR 7 SERIES 4-CAMERA MACHINE VISION WHEEL ALIGNER SYSTEM WITH WIDESCOP TECHNOLOGY

Angle readings at any rack height and distance up to 384".

Fast and accurate readings.

Compact installation without loss of accuracy and significantly.

Automatic rack incline correction.



### 7202T TECHNOVECTOR 7 SERIES 2-CAMERA MACHINE VISION WHEEL ALIGNER SYSTEM WITH WIDESCOP TECHNOLOGY

#### AFFORDABLE PRICE

Fast and accurate readings.

Compact installation without loss of accuracy and significantly.

Automatic rack incline correction.

## 7404HTS

### TECHNOVECTOR 7 SERIES HD 4-CAMERA MACHINE VISION WHEEL ALIGNER SYSTEM WITH WIDESCOP TECHNOLOGY

Only Heavy Duty vehicle reliable Machine Vision System on the market.

All heavy-duty vehicles wheelbases of up to 630 inches.

Up to four axles simultaneous rolling compensation and adjusting.



### SMARTLIGHT UNIQUE, CLAMPLESS WHEEL ALIGNMENT MACHINES FOR PIT OR RACK FULL RISE INSTALLATIONS

No wheel adapters or targets on wheels.

Readings in seconds.

More space in front and back of the vehicle.

Express full alignment check. Wheel Bases from 79" up to 154". Auto rear measuring posts aiming. Several alignment bay configurations are available.

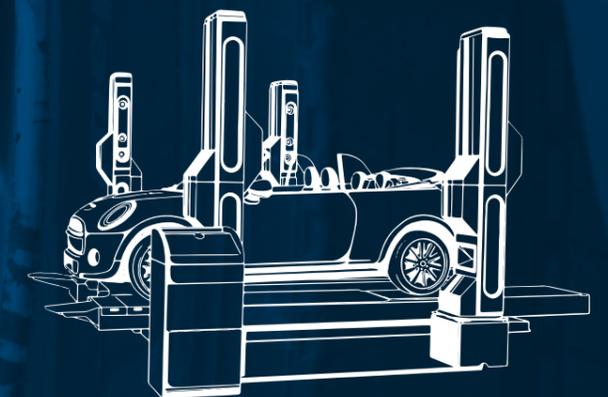
## VELOX

### CLAMPLESS WHEEL ALIGNMENT EXPRESS CHECK MACHINES

No wheel adapters or targets on wheels.

Auto Readings in seconds.

Express full alignment check.



# MACHINE VISION SYSTEMS INTRODUCTION

## TECHNOLOGY

System is based on the measurement of desired parameters of wheel alignment angles using a computer (machine) vision. Measurements are taken by processing measured data obtained with flashlight projectors – emitters on the vehicle's wheels and reading radiation pulses reflected from wheels with video cameras. Video cameras and emitters are built using CMOS technology. Reflected radiation processing (wheels images) allows calculating the relative position of vehicle wheels with a given accuracy. Measurement results obtained with video cameras are processed using the microprocessor system. Measurement results are processed and returned using a windows operated computer.

## OUR MACHINES

- Each TechnoVector Contactless System comprises four measuring towers. Depending on the type of installation - a pit or a lift, short towers with a pair of video cameras and a projector each or high towers with two pairs of cameras and two projectors are used.
- Each pair of video cameras and a projector process the corresponding wheel position. Special software algorithms compensate for temperature fluctuations of an operating projector and smooth out the pattern obtained on the wheel using radiation.
- System allows all wheels simultaneous rolling compensation and live adjustment.

## SMARTLIGHT

### UNIQUE, CONTACTLESS WHEEL ALIGNMENT MACHINES FOR PIT OR RACK FULL RISE INSTALLATIONS

- No wheel adapters or targets on the wheels. Saving time during the procedure, no scratches on the rims.
- Readings in seconds.
- More space in front and back of the vehicle.
- Express full alignment check: toe, camber & castor angles in a user-friendly printout.
- Wheel Bases from 79" up to 154".
- Auto rear measuring towers aiming.
- Several alignment bay configurations are available.
- Fast and accurate both vehicle axle readings for just one forward roll (Faster compensation).
- Complete the US market vehicle database.



## VELOX

### CONTACTLESS WHEEL ALIGNMENT EXPRESS-CHECK MACHINES

- No wheel adapters or targets on the wheels. Saving time during the procedure, no scratches on the rims.
- Automatically obtained readings in seconds. Fully automatic mode.
- Express full alignment check: toe, camber & castor angles in a user-friendly printout.
- Wheel Bases from 79" up to 154".
- Auto rear measuring towers aiming.
- Drive through configuration.
- Fast and accurate both vehicle axle readings for just one forward roll.
- Absolute system accuracy and reliability.
- Complete the US market vehicle database.



## WHEEL ALIGNMENT ANGLES EXPRESS-CHECK IN SECONDS

- Improve the profitability of your wheel alignment bay and loyalty of your customers by measuring of each vehicle.
- All basic alignment angles could be obtained in a few seconds upon automatic vehicle detection, including toe, camber & castor angles.



VELOX  
SMARTLIGHT



## AUTOMATIC VEHICLE RECOGNITION

- Constant tracking of vehicle wheels in the field of view of the measuring system cameras;
- Upon a car is detected, the aligner automatically starts the mode of measuring wheel alignment parameters.



## AUTO REAR MEASURING TOWERS AIMING

- Increased wheelbase range of the measured vehicles compared to competitors. The control program automatically detects the position of the rear axle wheels. The rear towers of the measuring system are driven by specialized servo motors to aim cameras at the vehicle's rear wheels.

# SOFTWARE /POWERFUL AND RELIABLE ALIGNER CONTROL TOOL\*

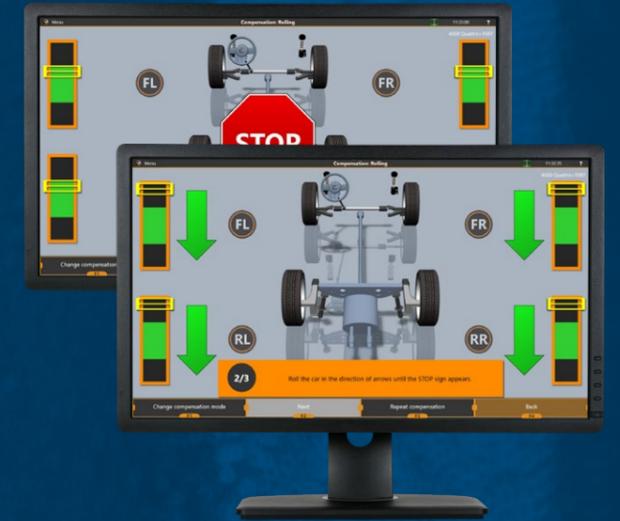
\*Runs under Windows 10

- Live data processing and readings display. Easy remotely operated using system color indicators.
- Readings are automatically compared with OEM vehicle specifications.
- Quick program modes access: Database View; Target Setup & Rolling Compensation Mode; Reading Mode; 3D Adjustment; 3D visualization; 2D Adjustment; 2D visualization; Report View.
- Extremely fast readings refresh. Software keeps up with the cameras live data speed 40 frames per second. Multiple target detection passes allows operation at extremely bright bays. Multithreaded architecture utilizes all the capabilities of modern multi-core processors. Scales correctly on every modern display including 4K monitors. All the screens are preloaded to ensure that there are no pauses while readings & adjusting.

- Aligner program database for 55000+ includes OEM wheel alignment specifications, tire pressure specifications, 3D animation, adjustment diagrams & images.
- The Electronic Help system contains thorough data on working with the wheel alignment machine and software: video manuals for working with equipment and program, adjustments data, diagrams, images, video and 3D animation.



- The software employs all the modern techniques to improve the accuracy of calculating targets positions in 3-dimensional space. Multiframe smoothing reduces data instability due to vibrations, lighting conditions, yet swiftly reacts to any bigger changes. The software automatically detects lift movement during adjustment and corrects the live values if the lift skews. Two readings coordinate systems are supported: calibrated horizon and vehicle plane. Additional jacking wheels mode for adjustment or runout compensation.
- 3D gauges during the adjustment procedures allow a better visualization of measured wheel alignment values. Live 3D performed data. Software generated Print-outs can include 3D rendered images illustrating positions of wheels before and after the adjustment.



- Animated 3D model of a generic car chassis. The wheels positions are illustrated according to measured values of toe, camber & caster. The adjustment mode has several views: for each wheel, for each axle, general view, geometry view and a 2D mode.
- Comprises over than 40000 vehicles. Totally compliant US market. Vehicle entries contain angles data specifications, images and videos on identification and preparatory procedures and OEM illustrated instructions of adjustment. Consistently database updates are available. Software allows to add an unlimited amount of custom specifications and export/import them.



- Intuitive workflow that utilizes only four navigation buttons at the bottom of the screen. Helpful images and OEM illustrations to remind the technician of procedure actions need to be performed. All orders data are stored and can be reviewed at any time. All the navigation through most of the program can be done using hotkeys on remote control or the keyboard.
- Web-camera program support to assist driver to position the vehicle on the workplace. Print-out setup allows to select one of multiple templates and set up ads texts and logos as well as several other useful options.
- Automatic screen transitions could be setted up. For example, the software automatically detects when the runout comp starts and proceeds to the next step.



- Default modes for compensation, measurement or adjustment could be selected as well as several other fine-tuning for adjustment, compensation and measurement modes. Statistics screen with valuable information about wheel aligners productivity: how many adjustment were made over a given period, what was the average adjustment time, etc. Tire pressure tables for most of the models in the database.



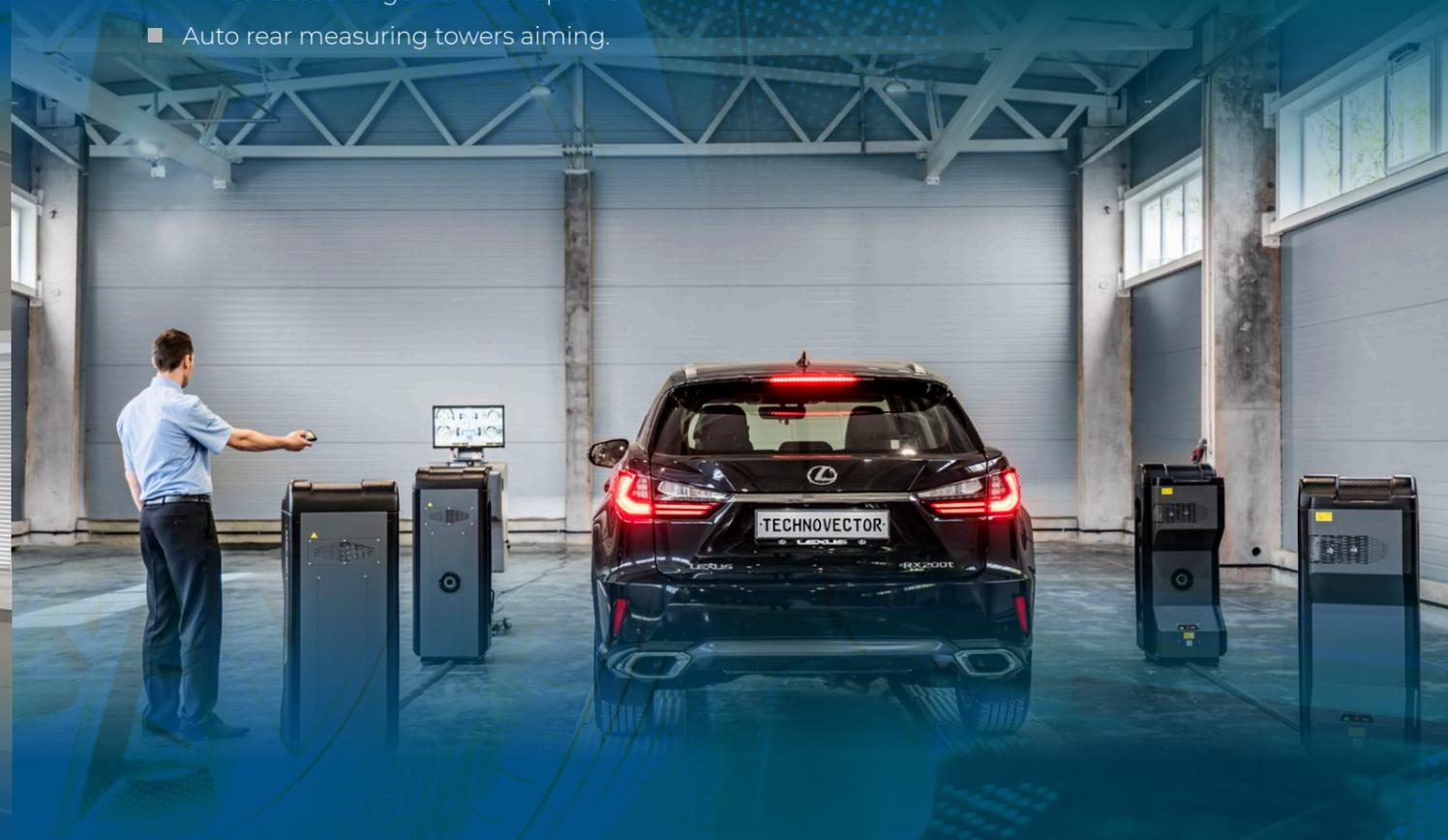
## SMARTLIGHT (F) \* HIGH MODEL

- Designed for installation on a lift to obtain measurement results at different lift heights.
- Automatically obtained readings in seconds. Fully automatic express-check mode on the lowest lift height.
- Live alignment readings of toe, camber & castor at any lift height.
- Wheel Bases range from 79" up to 154".
- Auto rear measuring towers aiming.



## VELOX & SMARTLIGHT (P) \* PIT MODEL

- Designed for installation on a pit or flush floor.
- Automatically obtained readings in seconds. Fully automatic express-check mode on the floor.
- Live alignment readings of toe, camber & castor. \*Only SmartLight model.
- Wheel Bases range from 79" up to 154".
- Auto rear measuring towers aiming.



# WHAT IN THE BOX



**2] Computer Console**  
Electronic PC based unit with Windows 10 operating system; 21,5" or above LCD monitor with monitor bracket, Universal telescopic monitor bracket for LCD position adjusting (height and inclination angle) to provide maximum operator' usability, Color Printer

**3] Electronic Unit**  
Powerful and reliable Windows 10 OS desktop.

**1] Machine Vision System**  
Four measuring towers. Depending on the type of installation - a pit or a lift, short towers with a pair of video cameras and a projector each or high towers with two pairs of cameras and two projectors are used. \*VELOX has only pit version

- 4] Steering Wheel Depressor & Brake Depressor**
- 5] Set of Turn Tables \***
- 6] Remote Kit**
- 7] Manual**

\* Only with SmartLight model



# SPECIFICATION

	Velox	SmartLight (P)	SmartLight (F)
Number of cameras	8 fixed cameras + 2 cameras for reference towers positioning	16 fixed cameras + 2 cameras for reference towers positioning	
Number of projectors	4	8	
Mounting type	Floor or Pit-mount.	Lift-mount	
Cabinet type	T / Y / S		
Applicability	Pit	Lift	
Max/Min wheel diameters	40 in		
Power source	115 VAC single-phase 50/60 Hz		
Weight net/gross	950/1060 lbs		
Volume	81 ft <sup>3</sup>		

# COMPUTER CONSOLES



# AVAILABLE COLORS



**TechnoVector Group**



[technovector.us](http://technovector.us)