

Battlecard

DALLMEIER PANOMERA® MULTIFOCAL SENSOR CAMERAS

OVERVIEW: DALLMEIER PANOMERA® MULTIFOCAL SENSOR CAMERA

The patented Panomera® technology combines several lenses and sensors with different focal lengths in one optical unit. Thus, Panomera® cameras with “multifocal sensor technology” also capture rear and middle image areas with the same high resolution as scenes in the foreground. With unique advantages in video surveillance, video monitoring and video analysis.



Panomera® S-Series

KEY FEATURES & BENEFITS OF PANOMERA®

1) Patented Multifocal-Sensor Technology

- **Dallmeier:** Several sensors in one camera that cover several focal lengths simultaneously. Enables simultaneous monitoring of wide-angle areas and focus on details. A Panomera® system represents up to 304 MP resolution (so-called “eMP - effective megapixels”).
- **Competitors:** Standard PTZ cameras offer either wide-angle or detailed views, but not both at the same time. Even the largest megapixel systems (currently max. 60 MP) do not achieve the same coverage with normal cameras.

2) High coverage and range

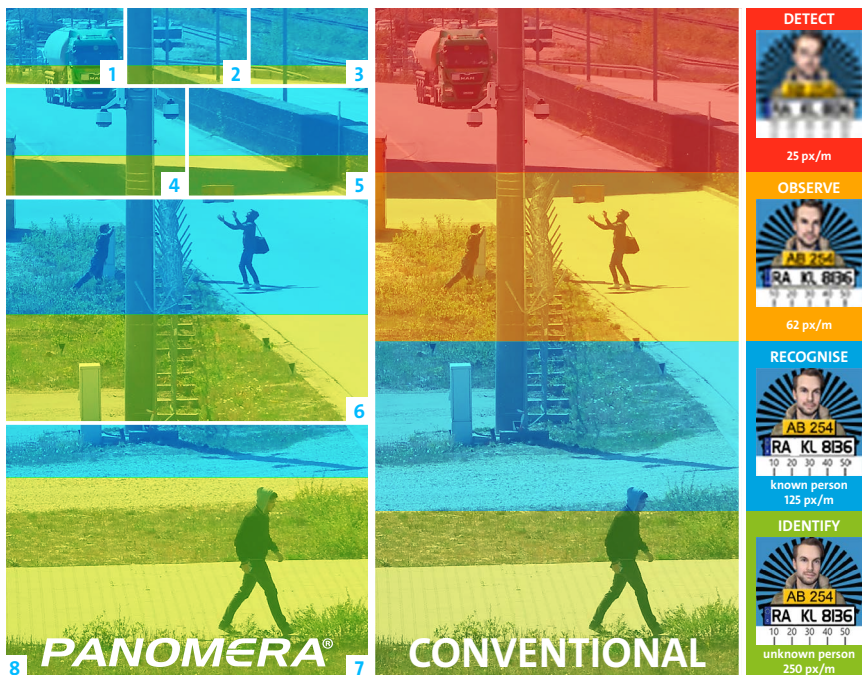
- **Dallmeier:** A single Panomera® camera can monitor very large areas with a high level of detail, which reduces infrastructure and maintenance costs. The technology also offers the option of opening any number of detailed views for any number of users.
- **Competitors:** A significantly higher number of cameras is required to cover the same area. This leads to higher hardware, infrastructure, installation and maintenance costs as well as significantly higher personnel requirements.

3) Pixel-per-object principle

- **Dallmeier:** Guaranteed, consistent image quality thanks to a uniform pixel-per-object ratio across the entire image area or object space. The resolution remains consistent even when enlarging/zooming.
- **Competitors:** The image quality of standard cameras decreases with digital magnification, which reduces the level of detail.



Panomera® W-Series



The values for the minimum resolution specified in DIN EN 62676-4 are the basis for any planning.

Depending on the technology, this changes with increasing distance.

Ideally, resolution is equally distributed across the entire object space.

This is not possible with conventional technology.

4) Less infrastructure required

- **Dallmeier:** Significantly reduces the need for additional cameras, infrastructure (masts, cabling, networks) and therefore operating costs.
- **Competitors:** Traditional surveillance solutions require more cameras, servers, licenses and extensive cabling.

5) Seamless zoom function without switching

- **Dallmeier:** Multiple users can switch seamlessly between close-up and long-distance shots without any delay or loss of quality. The number of “zoom windows” that can be opened simultaneously is theoretically unlimited.
- **Competitors:** PTZ cameras require mechanical panning or zooming, which takes time and often leads to loss of tracking. In addition, all processes outside the zoom range disappear – both in live operation and in the recording. These are then missing during analysis or forensic evaluation.

6) Lower total cost of ownership (TCO)

- **Dallmeier:** Fewer cameras, reduced cabling, lower power consumption, less maintenance and lower personnel requirements ensure long-term savings.
- **Competitors:** Higher total costs due to the use of multiple cameras and the associated infrastructure & personnel costs.

7) GDPR, NIS & NDAA compliance

- **Dallmeier:** Panomera® cameras and especially the associated software are developed in Regensburg, Germany. Dallmeier is ISO 27001 certified. Numerous technical features ensure conformity with the most important regulations such as EU-GDPR, NDAA, NIS-2.
- **Competitors:** Many competitors do not offer the same level of cybersecurity, data protection and rule of law background in development and production.

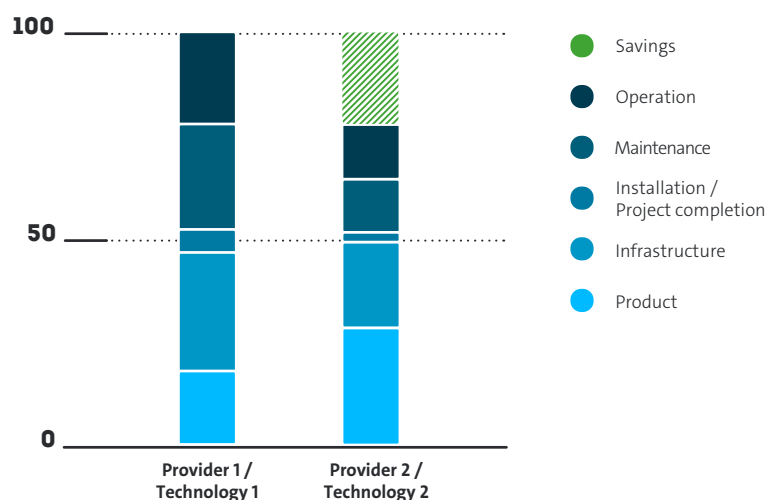


COMPARISON: DALLMEIER PANOMERA® VS. COMPETITORS

Function	Dallmeier Panomera®	Competitors (standard PTZ and IP cameras)
Camera type	Multifocal sensor (several focal lengths)	PTZ, fixed focus, standard multi-cameras
Covering large areas	High coverage with just one camera, up to 200 megapixel effective resolution	Several cameras required
"Pixel per object"	Uniform resolution in all areas, even in the rear image areas	Loss of resolution with zoom, decreasing resolution density in the rear image areas
Infrastructure requirements	Low (fewer masts, cables, excavation)	Significantly higher demand for infrastructure
Costs (TCO)	Low (fewer cameras, maintenance, electricity, personnel, installation costs)	Higher (more hardware, higher maintenance costs, more infrastructure, higher personnel and installation costs)
Recording flexibility	Seamless zoom without loss of quality, any number of "virtual PTZs"	Zoom with loss of quality with standard megapixel cameras. Loss of unfocused areas when using PTZ
Personnel requirements and safety performance	Low - few screens better overview, few installation points, maximum overview and details in recording and live observation	Large number of screens that need to be monitored or evaluated, lack of overview and lack of detail resolution. Loss of image material and unobserved areas when using PTZ
Installation & operation	Faster installation, fewer cameras	More complex installation with multiple cameras
GDPR compliance	Customization possible in some areas	Limited flexibility

SALES ARGUMENTS AND UNIQUE SELLING PROPOSITIONS

- **Cost-effectiveness:** Lower total cost of ownership (TCO) due to fewer cameras required and reduced infrastructure.
- **Quality and flexibility:** Consistent image quality and flexible adaptation to different monitoring requirements.
- **Highest image quality:** Up to 8 sensors offer maximum resolution and ideal adaptation to differences in brightness in the object space at up to 30 fps.
- **Maximum security performance:** Unique combination of high-resolution overall view and any number of detail zooms for the highest forensic quality.



- **Superior video analysis performance:** up to 8x system on chip for maximum analysis performance. Specially trained neural network, e.g. for perimeter protection, integration into leading third-party analysis systems.
- **Data protection & cybersecurity:** EU-GDPR and NDAA compliant. Meets NIS-2 and RCE requirements (Supply Chain & State of the Art technology), and developed and manufactured in the ISO27001-certified company in Regensburg, Germany.

COMPETITOR ANALYSIS

- **Avigilon & Hanwha:** High MP cameras (up to 30 MP with third party, 60 MP with Avigilon software). But no “Multifocal”, less Frames per second (7-9 vs 30), only 1 Compute instance (System on Chip - SoC) for analytics instead of 4-8, massive disadvantage in dynamics (different brightness in object space) because Panomera® can adjust much better to dark / bright areas as each individual sensor can have its own dynamic range.
- **Bosch:** Outstanding image quality, but no multifocal sensor technology. Greater need for multiple cameras for large-area surveillance.
- **Axis:** Strong in IP cameras, but no multifocal sensor technology like Panomera®.
- **Hikvision & Dahua:** Cheaper solutions, but with a focus on mass and less innovative technology compared to Dallmeier’s high-end solutions. No multifocal sensor technology, open questions regarding cybersecurity and ethics, not NDAA-compliant.

FREQUENT OBJECTIONS AND ANSWERS

1) “Dallmeier cameras are expensive.”

- **Answer:** Although the acquisition costs per camera are higher, the total cost of ownership is significantly lower when using Panomera® technology. You need fewer cameras, infrastructure and maintenance, which leads to considerable savings in the long term. And most importantly, the combination of maximum coverage and any number of detail zooms gives you maximum security performance.

2) “I already have PTZ cameras, why should I change?”

- **Answer:** Panomera offers simultaneous monitoring with an extreme, high-resolution wide-angle camera and any number of “virtual” PTZ cameras, so to speak. When using PTZ, you always have the problem that processes and areas outside the focus are not monitored or recorded. This reduces risks and increases efficiency.

CONCLUSION

The Dallmeier Panomera® multifocal sensor cameras offer a superior solution for monitoring large areas compared to conventional surveillance cameras.

They reduce overall costs, increase efficiency and provide outstanding image quality that is unique in the industry.





Panomera® Perimeter
Designed for AI based perimeter protection



Panomera® S4/8 Area
Acquisition of huge areas with consistent depth of field



Panomera® S8 Runway
The complete runway in a high resolution overview



Panomera® S4/8 Stadium
Efficient acquisition of very distant areas



Panomera® W4/8 Area
Optimised for the acquisition of a complete half-space



Panomera® Extensions
Smart extensions with remoter control over the network

Panomera® is available in various versions for many different use cases.

MORE DETAILS ON WWW.PANOMERA.COM



Let's talk about your project!

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