

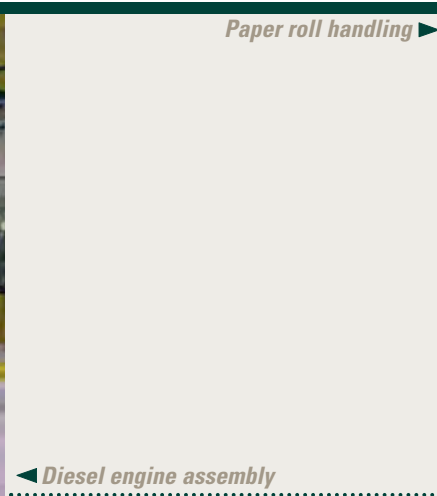
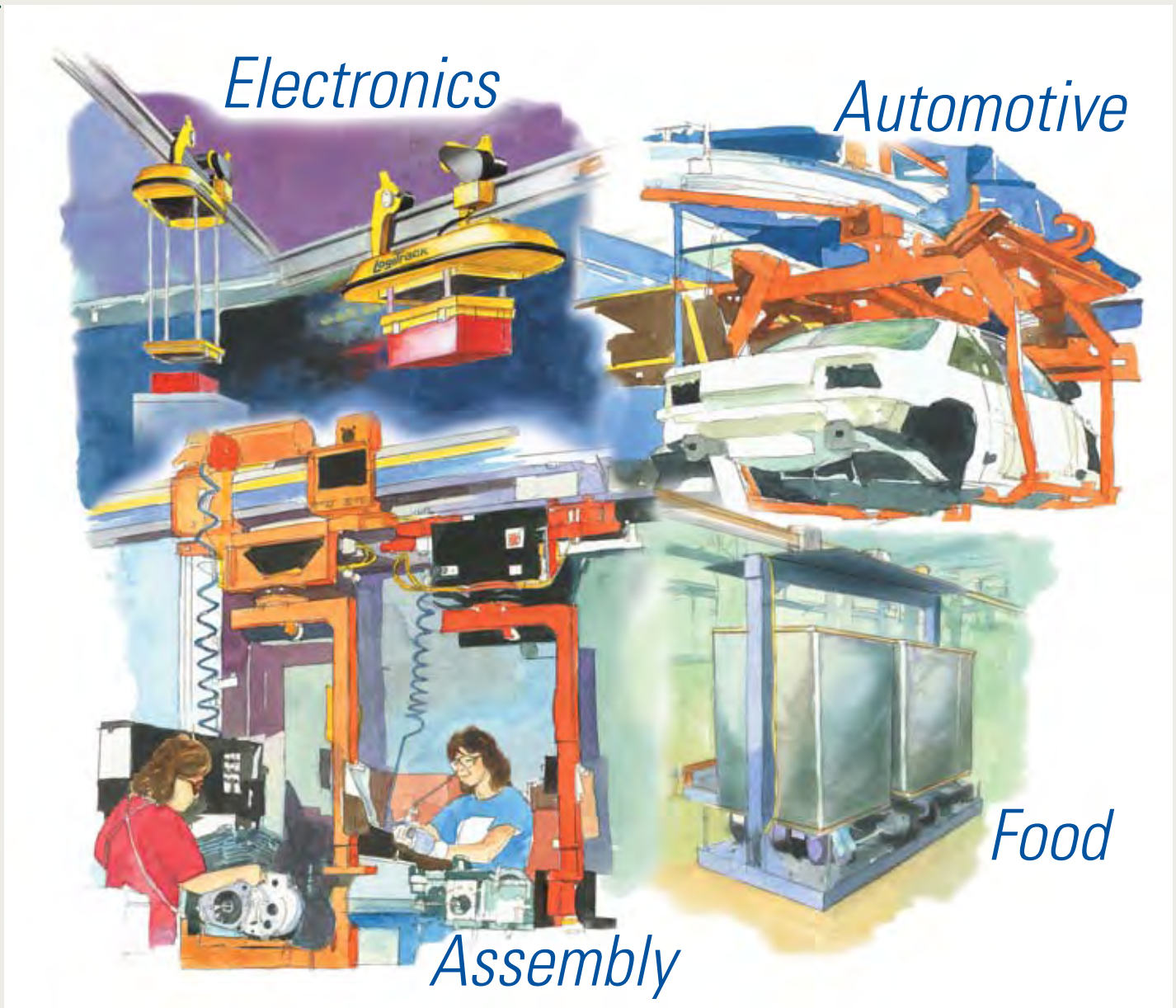


*Leaders in
conceiving and building
the most efficient and
reliable material handling
systems for diverse
production and delivery
applications.*

LogiTrack
Automated Electrified Monorail



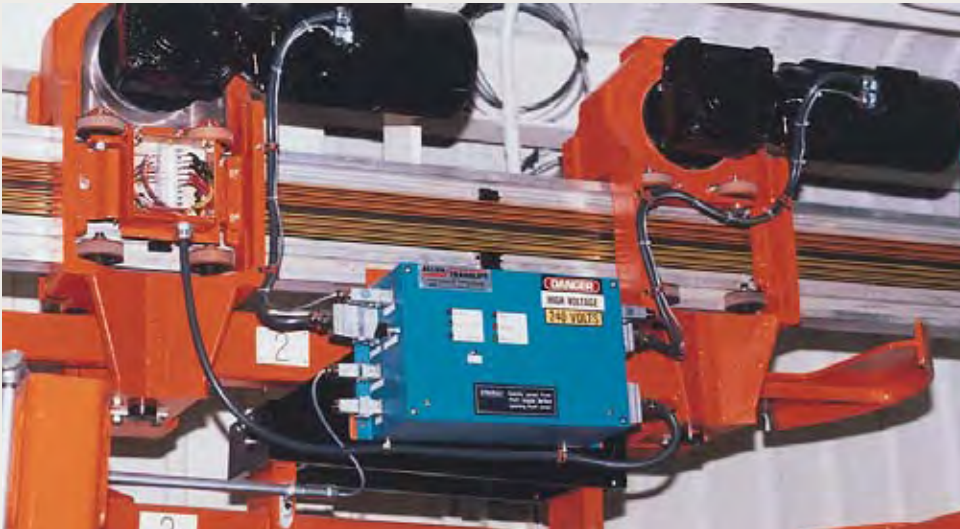
Wide Range of Applications



Paper roll handling ▶



◀ Diesel engine assembly



◀ *LogiTrack AEM systems provide in-plant materials handling using “individual programmable” self-powered, track-mounted trolleys.*

Welcome to an overview of the LogiTrack Automated Electrified Monorail (AEM) product line offered by Assembly & Test-N. America, (AT-NA), a division of DT Industries. With over 100 systems that comprise 4,000 trolleys, 900 switches, and 98,000 feet of track, AT-NA is an industry leader with its full line of LogiTrack AEMs. Consider these numerous LogiTrack advantages . . .

System Flexibility

- With building blocks such as programmable carriers, track curves, switches, track inclines/declines and lifts, and variable speed trolleys, your AEM system possibilities are limited only by imagination. Your AT-NA Material Handling team can help brainstorm useful ideas.
- Assembly systems can use both serial and parallel processing. Material can move in a paced or stop-station operation – all in the same system!
- LogiTrack AEMs can be used for product assembly, test, high speed delivery, or some combination. In hybrid systems, the same AEM carrier can be used throughout, eliminating multiple material handling systems or expensive transfer devices that create risk for product damage.

Quick “Time to Market” Response

- Compared to floor mounted conveyors or other overhead systems, LogiTrack AEMs make it easier, faster, and more economical to add stations or alter tasks at each station. In some cases, altering operations for optimum cycle time is merely a software change. You get relatively simple “line rebalancing” while gaining utmost manufacturing flexibility for product variations, changes, or expanding production rates.
- During new system development, layout changes are easily accommodated, enabling the most efficient configurations without project delays.

Speed and Handling

- LogiTrack AEMs can use multiple, variable speed trolleys, ranging from 3 to 450 feet/minute, along with reverse. On multi-speed systems, acceleration and deceleration rates are controlled and adjustable to provide smooth, swift product handling.
- High trolley speeds help minimize work-in-process, which also saves money by requiring fewer workpiece carrier fixtures/pallets.

System Reliability and Low Maintenance

- LogiTrack systems have simple designs with few working parts and minimal wear points. It’s why they typically exceed 99% uptime. All components are designed for long life. Wear points, such as collector shoes, typically exceed 3 to 5 years before replacement may become necessary.
- Loss of a trolley does not result in a complete system loss; operations continue as that trolley is taken off line.
- Preventive maintenance is performed at one central location, the maintenance spur loop, not throughout the system as is customary with conventional material handling systems.

Operator Ergonomics

- LogiTrack carriers can be equipped for manual or automatic workpiece rotation, tilting, and/or lifting, providing easiest access to all sides of the workpiece. Interference-free, 360° access to workpieces is common . . . with a work platform that is solid and stable.
- Station-to-station elevation changes are easily accommodated. Workpieces are presented to operators at the optimum height for assembly tasks. Operators can work close to workpieces without bending or leaning over, allowing comfortable and efficient work positions.



▲ *Transmission test and final assembly*

Space Utilization & Work Environment

- *LogiTrack AEM systems are typically supported overhead from building trusses, consuming minimal floor space.*
- *With the flexibility of overhead AEM arrangements, the floor equipment drives the location of your LogiTrack system. You aren't saddled with a material handling system that drives the positioning of your floor equipment.*
- *With unobstructed floors you get a clean environment that allows simpler housekeeping and floor maintenance. Furthermore, all trolley and carrier bearings are sealed for life, eliminating external lubrication and subsequent residue.*
- *Due to urethane wheels and non-contact accumulation, LogiTrack systems exhibit virtually noiseless operation (< 75dba).*

Safety

- *System software ensures safe, reliable trolley movement. AEM carriers can be equipped with a variety of safety sensors and switches based on each application. When actuated, the trolley immediately decelerates and stops moving.*

Energy Conservation

- *LogiTrack systems require less energy to operate because power is only used when trolleys are traveling.*



A new LogiTrack AEM product line transports lighter weight products, up to 45 lbs., to expand the economic and production appeal of AEMs to a broader range of applications.

Which method . . . ?

Which method is best for you?

LogiTrack is one of many material handling options supplied by the Material Handling Group of AT-NA. We are material handling experts committed to providing the best possible solution for your production and material transportation requirements. We draw upon our LogiTrack AEM product line and other alliances in the material handling industry to develop, build, integrate, and install systems to best satisfy your application requirements. As these charts reveal, LogiTrack AEMs are the method of choice in a wide range of applications. So, please have an open mind about your current situation . . . and imagine your possibilities!

Typical Manufacturing Application

Considerations	LogiTrack AEM	OH Chain Power & Free	AGV	Powered	Manual Push	In-Floor Chain
System Flexibility	Excellent	Average	Excellent	Average	Good	Poor
Expandability	Good	Poor	Excellent	Poor	Good	Poor
Operator Ergonomics	Good	Average	Excellent	Poor	Poor	Poor
Cleanliness	Excellent	Poor	Excellent	Poor	Poor	Poor
Quiet	Excellent	Poor	Excellent	Poor	Good	Average
Reliability (MTBF)	Excellent	Poor	Excellent	Poor	Good	Average
Ease of Maint. (MTTR)	Excellent	Poor	Average	Average	Good	Poor
Ease of Use	Excellent	Poor	Excellent	Good	Good	Good
Indexing Speed (Time)	Excellent	Poor	Average	Good	Poor	Poor
Automation Interface	Excellent	Poor	Excellent	Good	Poor	Poor
Routing Capabilities	Excellent	Average	Average	Average	Poor	Poor
Soft Handling	Excellent	Average	Excellent	Poor	Poor	Average
Onboard Power & Intel	Excellent	Poor	Excellent	Poor	Poor	Average
Product Tracking	Excellent	Good	Excellent	Good	Poor	Good
Floor Space Utilization	Excellent	Good	Average	Average	Good	Average
Elevation Changes	Average	Good	Poor	Good	Poor	Poor
Energy Use	Excellent	Poor	Average	Average	Good	Poor
Safety	Excellent	Poor	Excellent	Average	Poor	Average
Production Rate (high)*	Excellent	Average	Poor	Good	Poor	Poor
Production Rate (low)*	Excellent	Average	Good	Good	Good	Good
Product Size (large)	Excellent	Good	Excellent	Average	Poor	Average
Product Size (small)	Excellent	Good	Poor	Good	Average	Poor

Typical Delivery Application

Considerations	LogiTrack AEM	OH Chain Power & Free	AGV	Powered Roller	Fork	Overhead Chain
System Flexibility	Excellent	Average	Excellent	Poor	Good	Poor
Expandability	Good	Poor	Excellent	Poor	Good	Poor
Cleanliness	Excellent	Poor	Excellent	Poor	Poor	Poor
Quiet	Excellent	Poor	Excellent	Poor	Poor	Average
Reliability (MTBF)	Excellent	Poor	Excellent	Poor	Good	Good
Ease of Maint. (MTTR)	Excellent	Poor	Average	Average	Good	Poor
Delivery Speed	Excellent	Poor	Average	Good	Poor	Poor
Automation Interface	Excellent	Poor	Excellent	Good	Poor	Poor
Routing Capabilities	Excellent	Average	Average	Average	Poor	Poor
Product Tracking	Excellent	Good	Excellent	Good	Poor	Good
Floor Space Utilization	Excellent	Good	Excellent	Poor	Good	Good
Elevation Changes	Average	Good	Poor	Good	Poor	Poor
Energy Use	Excellent	Poor	Average	Average	Good	Poor
Safety	Excellent	Poor	Excellent	Poor	Poor	Poor
Delivery Rate (high)*	Excellent	Average	Poor	Good	Poor	Poor
Delivery Rate (low)*	Excellent	Average	Good	Good	Good	Good
Product Size (large)	Excellent	Average	Excellent	Average	Poor	Poor
Product Size (small)	Excellent	Good	Excellent	Average	Poor	Good
Storage*	Poor	Good	Poor	Average	Good	Good

* Application dependent

Excellent Good Average Fair Poor

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Carriers and Controls



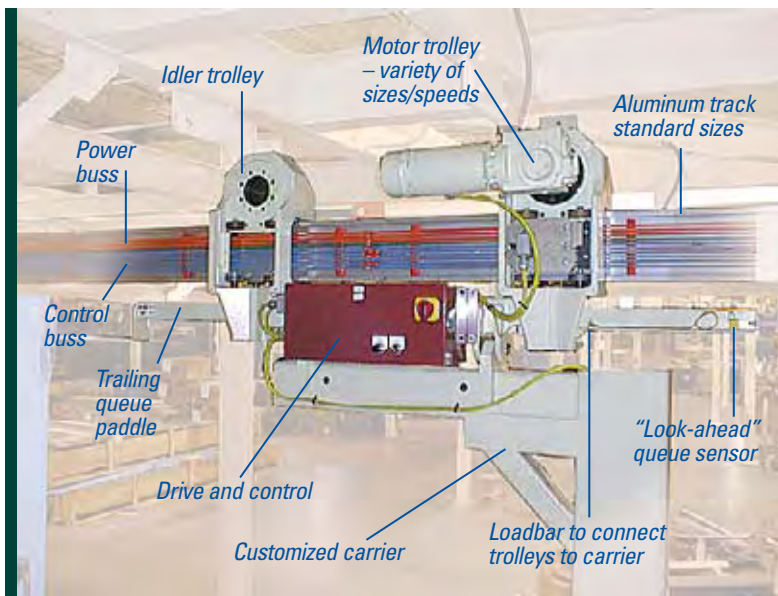
◀ **Rugged transmission carriers provide complete access to workpieces**

Carriers vary from a simple hook to a complex workpiece fixture requiring an on-board PLC to operate all required functions. Whether simple or complex, carriers are the hearts of your AEM system. Ours are thoughtfully designed, rugged, and reliable to achieve the performance and uptime essential for a successful system.

Carriers can be supplied with on-board, push buttons for operator control and interface with the system PLC, allowing clear floor space at the operator's station. In assembly systems, carriers are often equipped to rotate, tilt, and/or lift workpieces, allowing tasks to be performed in the easiest, fastest manner. Carriers can interface with automatic assembly stations and test stands without sacrificing the ergonomic advantages experienced in manual stations.

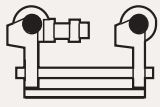
On-board Radio Frequency (RF) read/write tags are available to permit handling of different parts or part numbers. This lets you automatically process a part through its unique sequence of operations. Changing or revising the sequence is accomplished by merely revising the system software.

Your AEM system can also be equipped with on-line diagnostics. Preventive maintenance is often a programmed activity, automatically routing carriers to the maintenance spur loop at regular intervals.



◀ **LogiTrack AEMs are an excellent fit for automated production systems**

LogiTrack Building Blocks



Electric Trolley



Straight and Curved Track Section



Incline Track



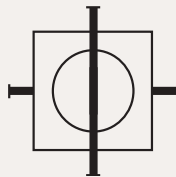
2-Way "WYE" Switch Point



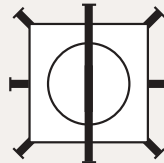
2-Way "VEE" Switch Point



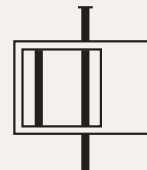
3-Way Switch Point



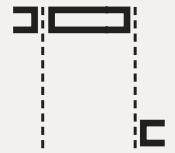
Single Cross Point



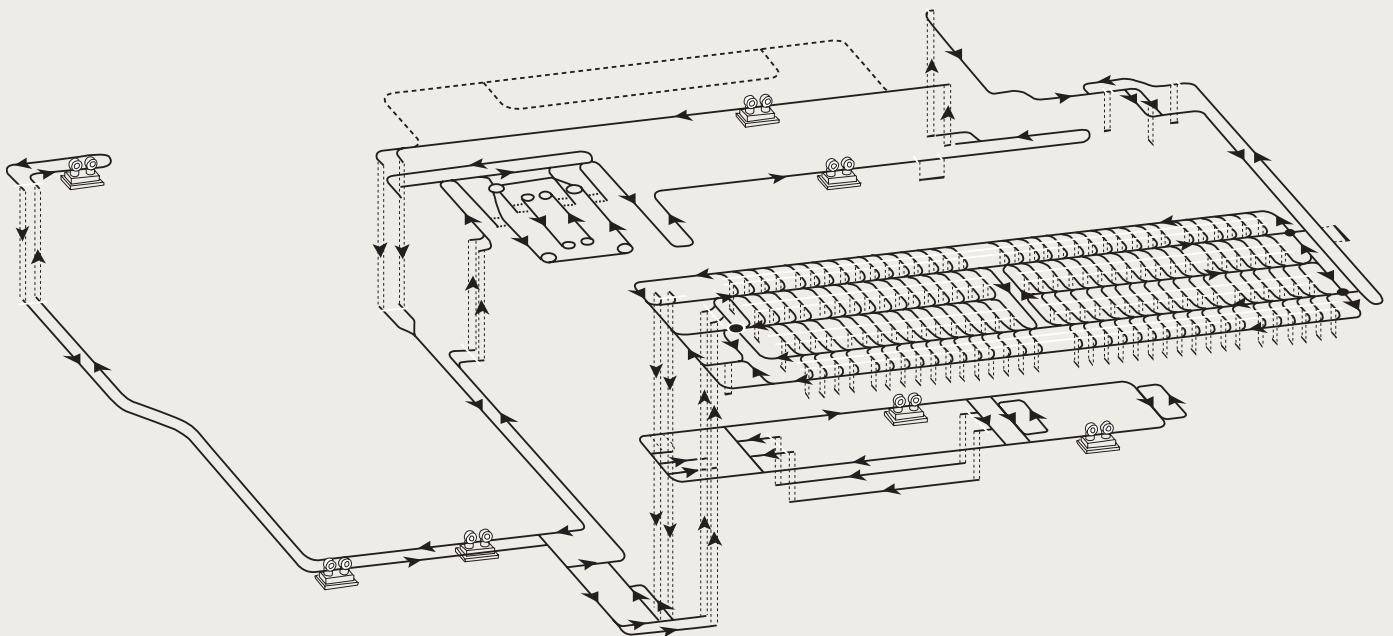
Turntable



Side Transfer



Lift/Drop Section



▲ LogiTrack cross-point section

LogiTrack AEM systems are supplied in basic building blocks and various installation configurations – overhead, inverted, and ceiling or floor supported. For applications such as high speed delivery, assembly and test, or hybrid production systems, LogiTrack AEMs provide a totally flexible, clean, quiet, and smooth transport system for virtually any product.



LogiTrack 3-way track switch ▲

Production Systems

▼ *Motorcycle Assembly*



▲ *Transmission assembly and test*



Diesel engine assembly and test ►

◀ *Floor-mounted body assembly system*



Delivery Systems



▼ Hazardous material handling system

Floor-mounted delivery system ►



Bar stock delivery system ►



◀ Truck cab delivery system

Specifications

Modular System	LT-M2	LT-01	LT-05M	LT-05/10	LT-20	LT-30/40
Capacity	45 lbs. (20 kg)	220 lbs. (100 kg)	500 lbs. (225 kg)	2,200 lbs. (1000 kg)	4,400 lbs. (2000 kg)	8,800 lbs. (4000 kg)
Speed	Standard speeds up to 450 feet/minute. Single speed, two speed, or multiple variable speeds.					
Operating Voltage	Standard opening voltages are 230/208 volt, 3 phase, 60 Hz, AC or 480 volt, 3 phase, 60 Hz, AC.					
Destination Control	Electronic/Photoelectronic Destination Control • Electronic Destination Control • Electro-Magnetic Destination Control • Electro-Mechanical					
System Control	The system control can be configured in a de-centralized or centralized manner using Programmable Controllers and PC-based Controls. Computer management of several interdependent systems is available.					
Compatibility	LogiTrack AEM systems are compatible with most material handling systems, including: floor conveyors, auto-guided vehicles, stacker cranes, assembly lines, continuous lines, indexing lines, washing systems, manual or automatic systems, load/unload stations, and machining centers					
Features	LT-M2	LT-01	LT-05M	LT-05/10	LT-20	LT-30/40
Track type	Aluminum or stain-less steel	Aluminum or stain-less steel	Aluminum or stain-less steel	Aluminum or stain-less steel	Aluminum, stainless steel, or carbon	Aluminum, stainless steel, or carbon
Monotrolleys	Yes	Yes	Yes	Yes		
Climbing trolleys	Yes	Yes	Yes	Yes		
Multiple speed trolleys	Yes	Yes	Yes	Yes	Yes	Yes
Trolley combinations for higher capacities			Yes	Yes	Yes	Yes
Conductor bars	Up to 5	Up to 10	Up to 10	Up to 10	Up to 12	Up to 12
Battery power option	Yes	Yes				
Hoisting trolleys		Yes		Yes	Yes	Yes
Fine positioning	Yes	Yes	Yes	Yes	Yes	Yes
Automatic trolley fixtures	Yes	Yes	Yes	Yes	Yes	Yes
Self diagnosis	Yes	Yes	Yes	Yes	Yes	Yes

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