



IsoMation

Enabling Solutions for
Fab Automation

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Introduction

Ken Miller

- 35 yrs experience (Novellus, Powerfile, Xyratex)
- 20+ Patents

Steve Lim

- 15 yrs experience (Applied Materials, KLA-Tencor, Neo-Photonics)
- Experience in overseas operation and manufacturing

Mario Rosati

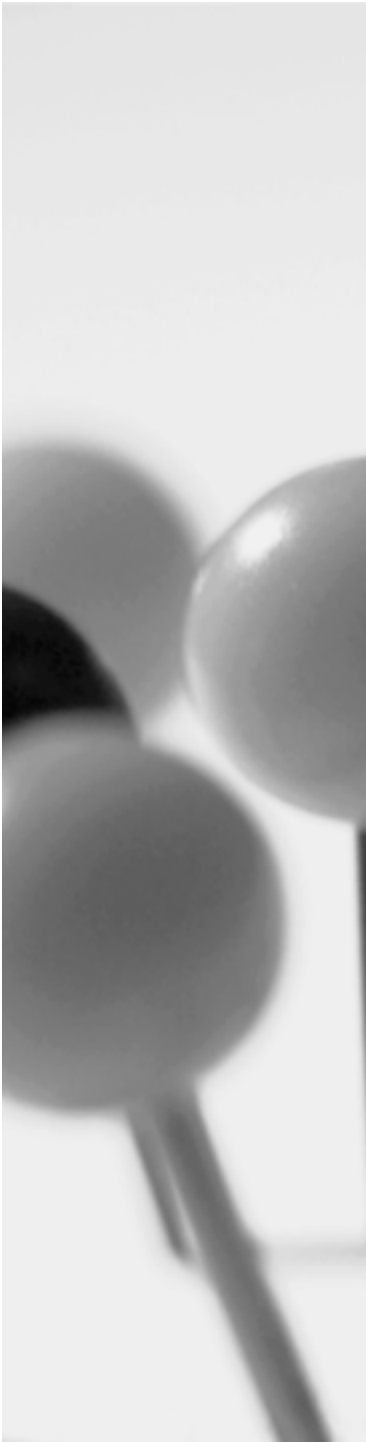
- Sr. partner of WSGR

CEO

- TBD

CFO

- TBD



Current Productivity Problems (25 Lot FOUPS = Bus)

- Unproductive 'idle' time at tool
- Inability to meet demand due to extended ramp and production cycle times
- Erosion of return-on-assets because of excessive work-in-process (WIP) in fab
- Contamination increases with time in fab

300mm Prime

“clear improvements to be made in cycle time by moving single-wafer...Industry analysis shows this improvement can be substantial (2-4X)...New AMHS techniques may be needed, which suggests new architectures for next-generations 300mm fabs.”

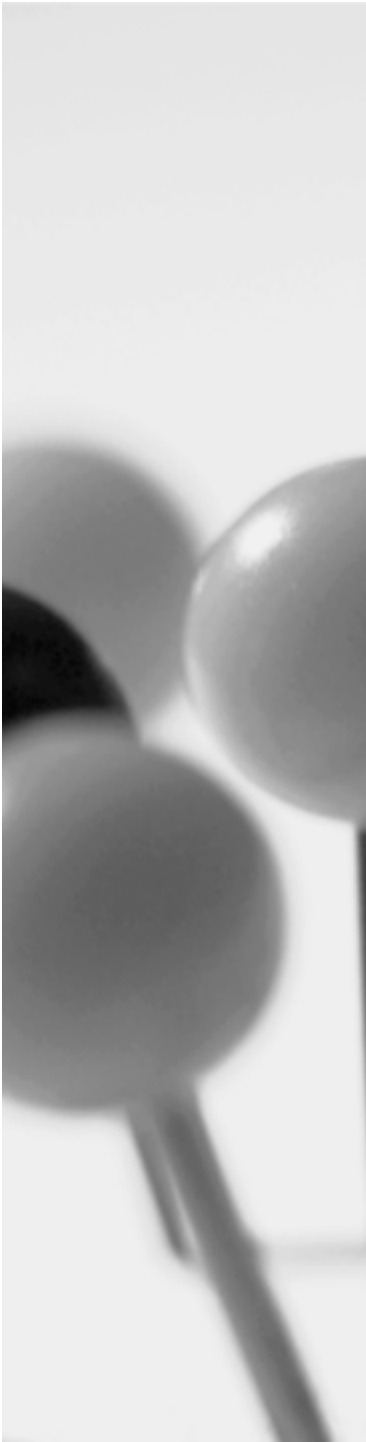
- Masayuki Tomoyasu, SEMI July 2007

“cycle-time reductions can significantly improve productivity, reducing cost-per-wafer, which is part and parcel of the primary argument for 300mm Prime”

- Robert Leachman at UC-Berkeley

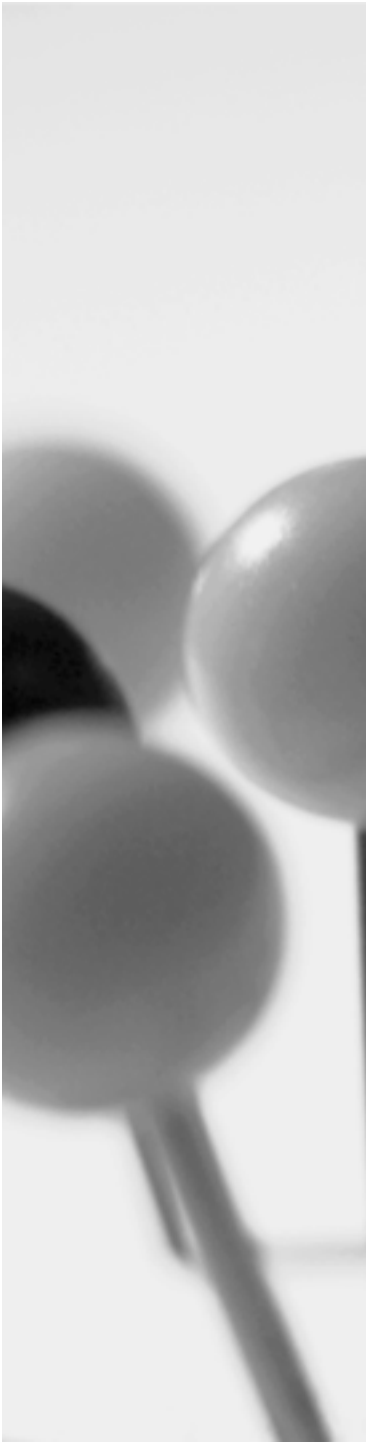
“As tools process wafers faster...the bottleneck is material handling....thus, efficient wafer handling between tools is increasingly viewed as critical to improving productivity.”

- Joel Galliher, Bosche Rexroth , Design World 2007



Keys to State of the Art Wafer Handling

- Single wafer handling (no FOUPs)
- High speed transfer from tool to tool
- Fully automated tool to tool transfer and loading
- Optimized buffering (between operations) of single wafers
- Transport of single wafers in clean tunnels between tools
- Reduction of handling operations.



TransLev is the Solutions: (Single lot carrier = Taxi)

- US Patented Wafer Transport Device
- Magnetically suspended wafer carriers in “clean” vacuum tunnels
- High speed, bi-directional transport
- Fully automated material handling
- Zero vibration
- Enabling technology for multiple wafer sizes
- Replacement of EFEM, factory automation, and clean room into single system



Opportunities

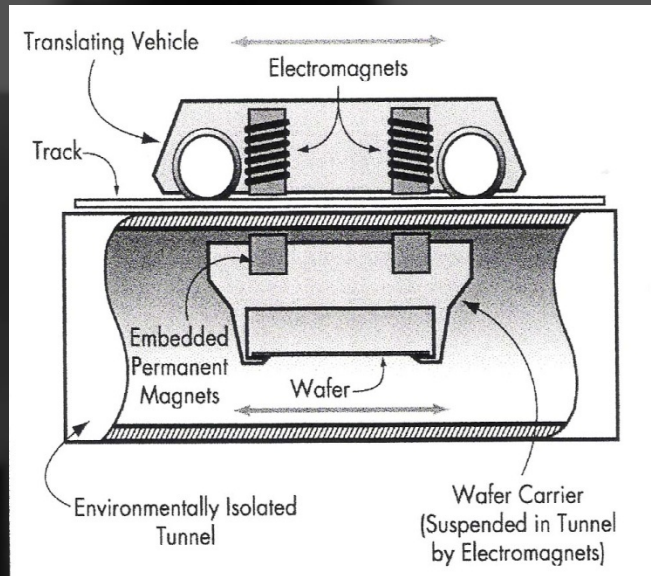
- Reduced material handling and storage
- Reduced clean room size
- Reduced process throughput time
- Reduce cycle time
- Reduced handling
- Reduced production ramp time
- Reduce WIP
- Multiple product processing

TransLev System Consists of Three Components:

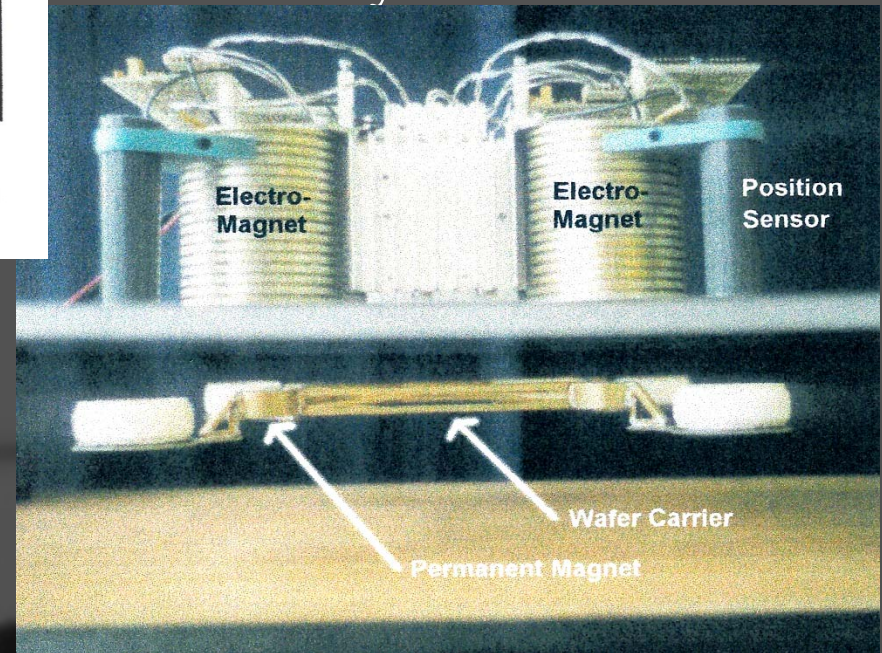
- TransLev Tunnel:
 - Vacuum, atmospheric, or pressurized
 - No electronics inside
- TransLev Carrier:
 - Support for product
 - Floats inside a tunnel
 - No electronics
 - Integrated permanent magnets
- TransLev Taxi:
 - Electro-magnets
 - Servo sensors
 - Battery back up
 - XY transport drive
 - Electronics

TransLev:

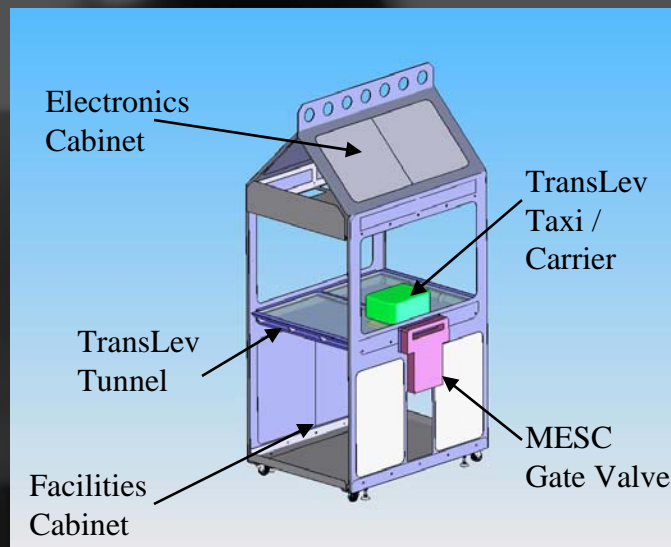
Concept



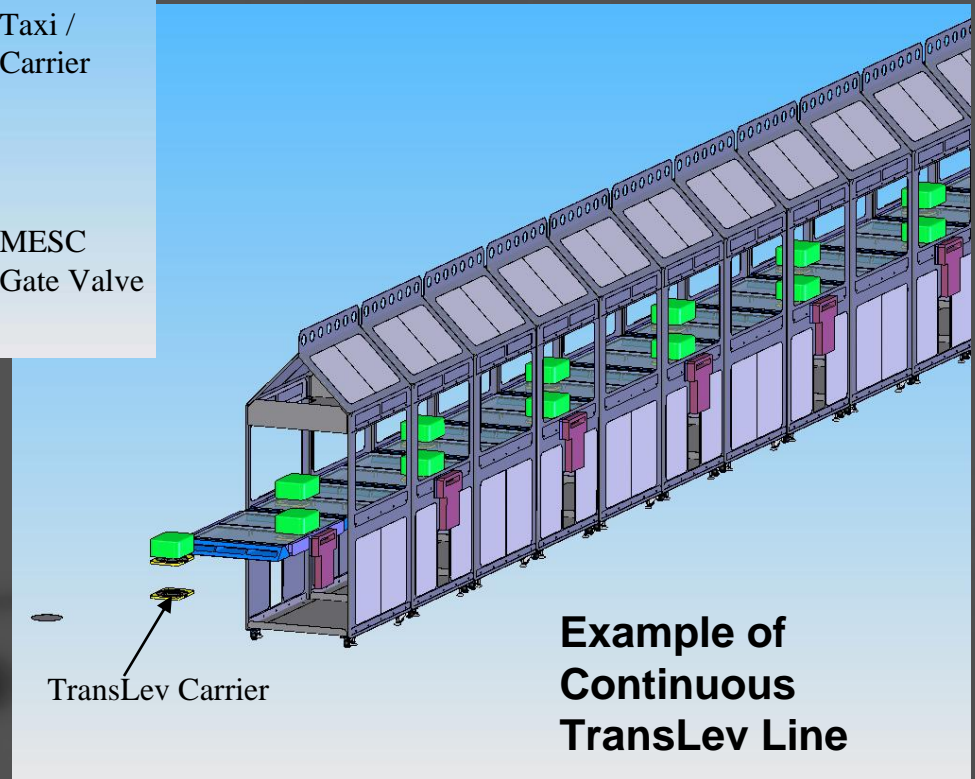
Laboratory Demonstration



TransLev System Layout



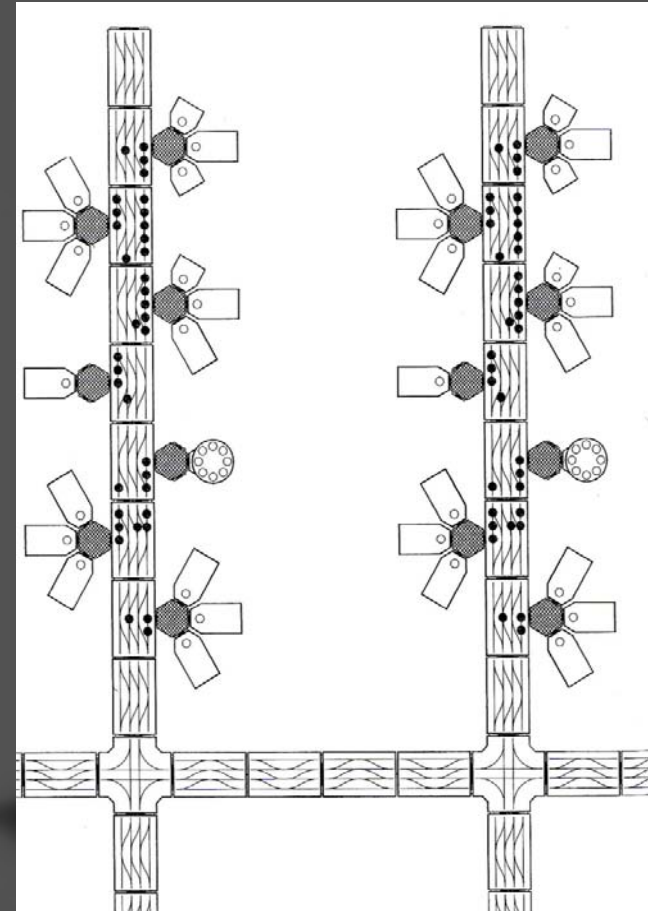
TransLev Module



**Example of
Continuous
TransLev Line**


TransLev Fab Layout

TransLev will revolutionize construction of fabs and foundries.



IsoMation Key Initiatives

1. FAB Modeling / Simulations
2. Automated "TAXI" / Carriers
3. Business Development
4. Expanding IP
5. Raising CAPITAL



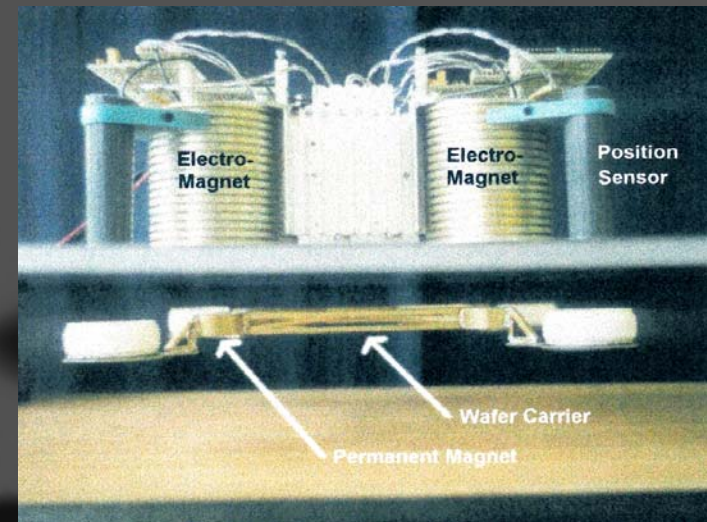
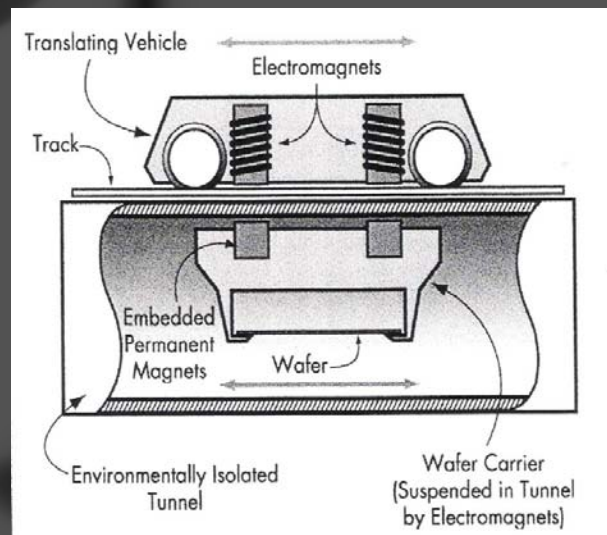
Key Initiative #1: Fab Simulations

- Wright Williams & Kelly, Inc.
- Abbie Gregg, Inc.

Key Initiative #2: Automated “Taxi” / Carrier

- Thompson Consulting
- LaunchPoint
- IsoMation technicians

Laboratory Demonstration





Key Initiative #3: Business Development

- Recruit CEO and CFO
- Further develop Business plan for phase 2 funding
- Develop marketing strategy
- Develop website



Key Initiative #4: Expanding IP

- Current Issued Patent
#5417537
- Preparing to file provisional
patents to extend IP coverage
(K&L Gates, LLP)

Key Initiative #5: Raising Capital

Phase One

\$100k to:

- Complete Fab Modeling/Simulations
- Automated Taxi
- Extend IP
- Phase 2 fund raising

Phase Two

\$20-50M to develop and build Taxis,
Carriers, Modules for complete fab

450mm vs. 300mm War

“The cost to develop the equipment to handle the 450mm wafer could run as high as \$100 billion.”

- Ann Steffora Mutschler, Electronic News May 2008

“We’re nowhere near reaching the potential of 300mm.”

- Mike Splinter, president, CEO, Applied Materials, July 2006

“450mm wafers would not become a reality while he was still working.”

- Rick Hill, Chairman & CEO, Novellus, August 2006

Development Partners

Magnetics

- Launchpoint, Thompson Consulting

Fab Software

- Eyclit, Cimetrix, Systematic Designs Int, PeerGroup

RFID

- Wave Logic (Escort Memory Systems)

Servo Motors

- Controlled Kinematics

Manufacturing

- Flextronics

Potential Customers

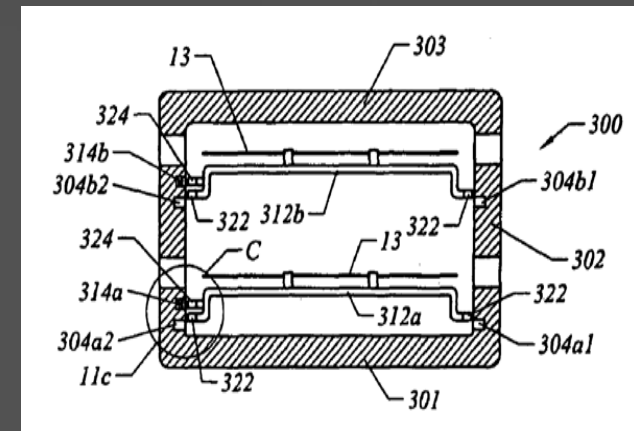
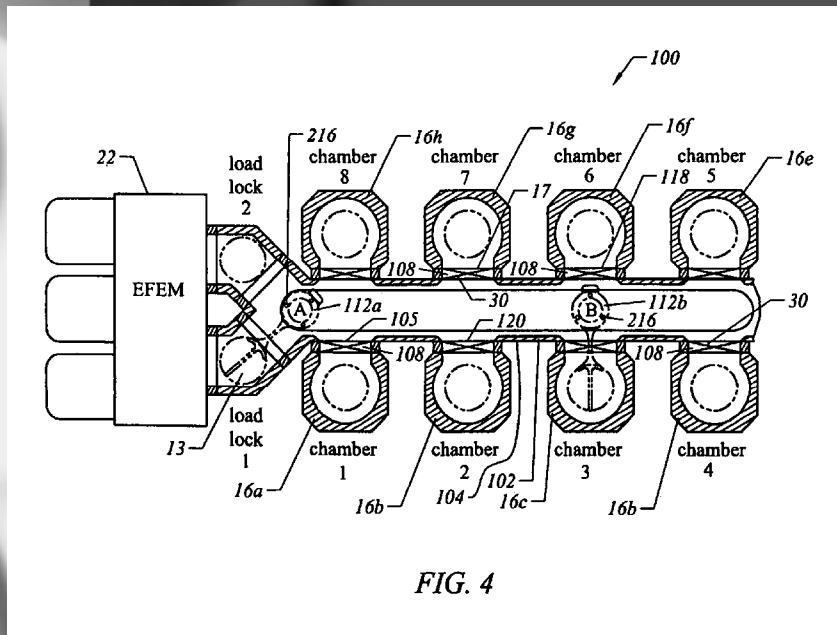
- Intel
- LSI Logic
- TSMC
- UMC
- Freescale
- X-Fab
- JAZZ
- Other FABs and Foundries

Competitors

- Brooks Automation / PRI (\$787M annual sales)
- Daifuku Co., LTD (\$6B+ annual sales)
- Asyst Technologies / Asyst-Shinko (\$497M annual sales)
- BlueShift Technologies (start up)
- Crossing Automation (start up)

Asyst Technologies

- Patent : US 7,293,950
- Issued November 13, 2007



Crossing Automation

Product Lines

- Multi-Wafer Buffer
- Dual Wafer Load Lock

Configuration neutral. Our modules integrate easily into current and future system designs. We see greater than 90% reuse of these building blocks as they are easily reconfigured. We operate in medium vacuum and direct atmosphere to vacuum disciplines. Better still, we integrate these different disciplines.

Distributed motion. As opposed to a complex central robotic transfer device, building blocks simplify motion profile and control. Each block has its own dedicated wafer movement. Blocks are configured into wafer automation systems to meet the requirements of virtually any architecture. This design reduces pick/place conflicts. Simplified linear transfer devices and consequently simpler control algorithms improve control and reliability of wafer movement.

Blue Shift Technologies

QuickLink

Linkable design from BlueShift™ Technologies accelerates semiconductor industry's migration toward increased:

- Small-Lot Size Manufacturing
- Highly Integrated Vacuum Processing

The QuickLink™ wafer-handling system, built on a foundation of open, industry-standard technologies, is the next-generation architecture for process-equipment. The linkable, adaptable design of these systems means they can be configured in a manner more compact and less complex—and can be delivered for fab deployment more quickly and at a lower cost than ever before: *increasing process integration and significantly reducing cost of ownership.*

Future Markets

- LCD
- Solar
- Bio-medical
- Others

Target Investors

- Intel Capital (Crossing Auto / BlueShift)
- Tallwood (Crossing Automation)
- Atlas Venture (BlueShift)
- North Bridge Venture (BlueShift)
- Nth Power
- ATA Ventures
- BAY Partners
- Institutional Venture Partners (IVP)
- Others



Marketing Campaign

- No FOUP
- No AGV
- No Stocker
- No Conveyor
- No Elevator
- No EFEM
- No RθZ Robot
- No 450mm

Summary

- Industry needs a solution
- TransLev is the solution
- The solution is patented
- The solution is simple

“Some day all fabs will be built this way”

How to Contact Us

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www.trans-lev.com

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