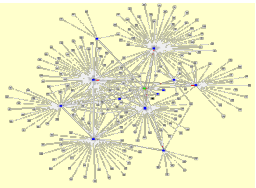
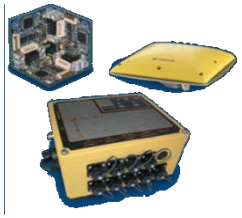
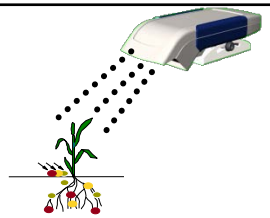
WisDOT IC Demo

Brian Lingobardo
Topcon Positioning Systems
Tom Walrath
Positioning Solutions





Positioning Business Markets

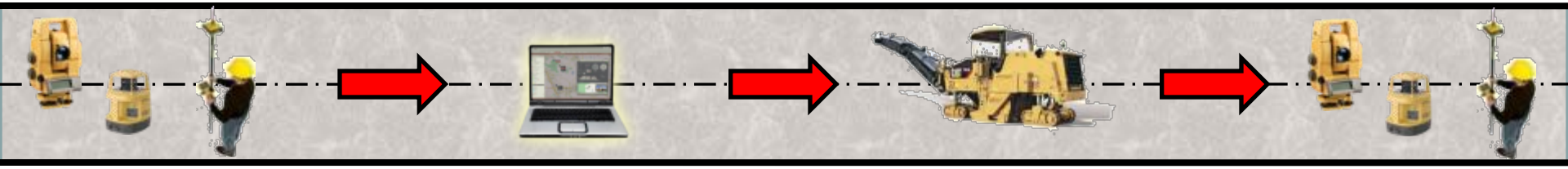
Survey	Construction	Agriculture	OEM GPS	Networks	GIS/Mapping
					
					
					
					

Topcon's Technology Goals

- Use resources more effectively.
- Improve operator's performance.
- Bid more competitively.
- Increase production.
- Reduce staking costs.
- Control material costs.

3D-MC Systems

Mainline Paving Project Timeline...

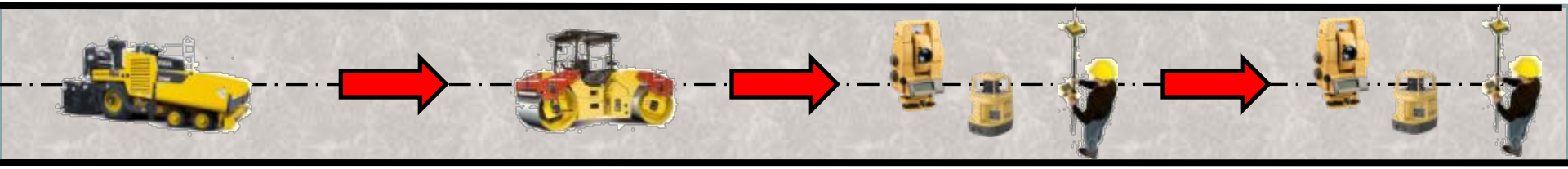


Asbuilt
Measure Existing

Analysis
Design phase

Trim / Mill
Constant Depth

Inspection
Confirm milling



Paving
Multiple Lifts

Rolling
Optimum Density

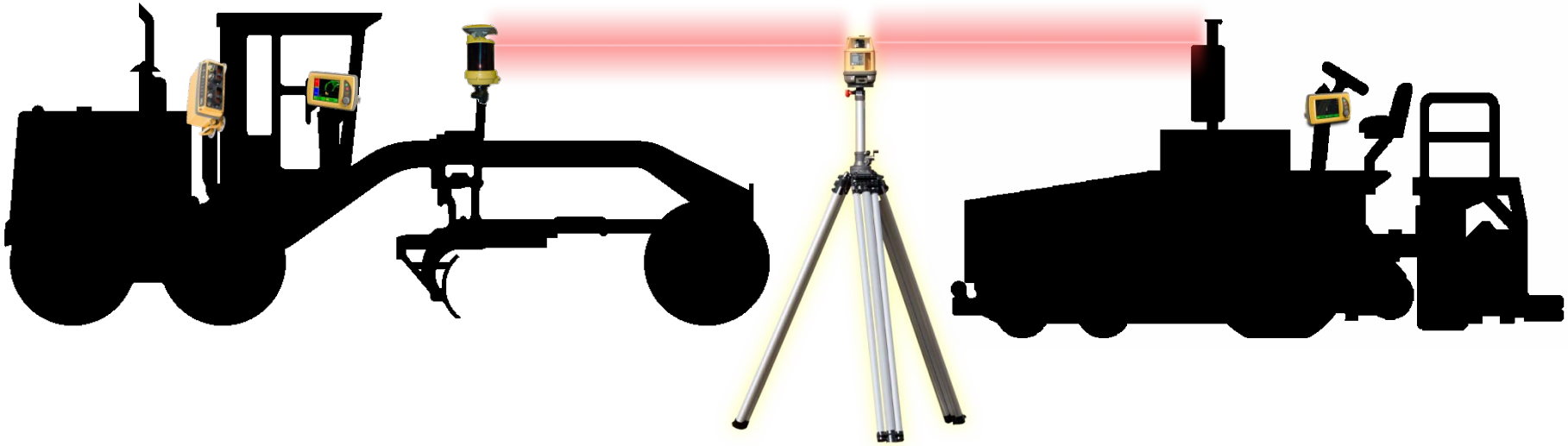
Inspection
Confirm paving

Asbuilt
Measure Finished

Millimeter GPS+

The versatility of GPS with the accuracy of a laser

Shared Components



GX-60

PZS-MC

MC-R3

mmGPS Profiling

mmGPS Paving

Multiple Applications

"IC" Intelligent Compaction

Asphalt IC Rollers

Ammann/Case

Sakai America

Dynapac

Bomag America

Caterpillar

Intelligent Compaction

A system of hardware, software and analysis equipment installed on a roller that work together to improve the compaction process and to provide innovative tools for compaction acceptance.

Goals:

- **Continuous assessment of mechanistic compacted material properties (e.g., stiffness, modulus) through roller vibration monitoring.**
- **On-the-fly modification ("feedback control") of vibration amplitude and frequency.**
- **Integrated global positioning system (GPS) to provide a complete GPS-based record of the compaction site.**

3D-MC Platform

GX-60

- Used in 2D & 3D applications
- Touch screen
- Windows XP
- Operator selectable views

3D-MC Platform

- GPS receiver(s) safely inside
- Internal 900Mhz or UHF modem
- Network capable (GPRS or CDMA)

GPS+ SYSTEM COMPARISON

	GPS	GLONASS	GALILEO	
SATELLITES	24	24	30	
FREQUENCIES MODERNIZED	2	2	3	
CODE MESSAGES	2	2	2	
INFO MESSAGES	3	3	3	
SATS per LAUNCH	1	3	6	2
	Delta 2 Rocket	Proton K Rocket	Ariane 5	Soyuz

Grade Management

Pocket 3D

- Pre-Bid Topo
- Grade Checking
- Collect Points
- Volume Calculations
- Staking
- Locate Utilities (and much more!!)

GR-3 Series

World's First GPS, Glonass and Galileo rover.

- Completely integrated GNSS receiver
- Integrated Universal Constellation receiver
- Internal TX/RX radio modems
- Internal Bluetooth Wireless Technology
- Dual communications system (radio & cellular)

Grade Management

GRS-1

- **First Network Rover**
- **Lightest weight rover in market**

GRS-1 & Network

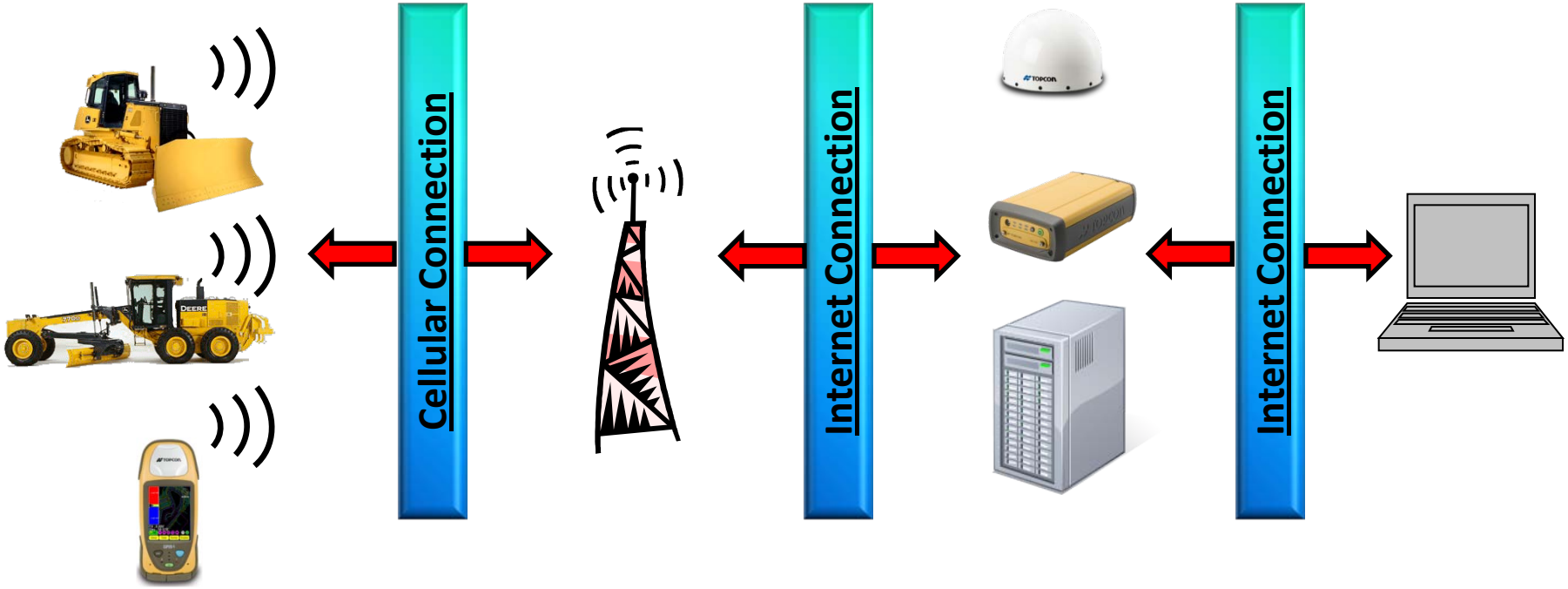
- Instant-On RTK anytime, anywhere within a network.
- No need for base station.
- Uses common, reliable communications.
- Light weight rover.
- Also works with Base Stations, using RS-1 radio.

TOPCON

sitelink® 3D

REAL-TIME 3D MANAGEMENT

SiteLINK–3D – Jobsite Setup



SiteLINK Jobsite **Cellular Network** **Server** **Customer's Computer**

SiteLINK–3D – Jobsite Setup

Features:

- Remote Machine Troubleshooting
- Remote File Transfer / Messaging / Reporting
- RTK Corrections over SiteLINK or VRS
- Calculated daily productivity including total cut/fill volume and cut/fill area.
- Builds upon existing 3D grade control systems.

Asset Management for Construction

tierra™

Topcon Tierra is Asset Management

- How efficiently are my assets being utilized?
- Where are they?
- How can improved management of my assets translate to reduced cost and increased productivity?
- How to recover stolen assets
- Scalable solutions from single interface

What can Tierra do for you?

Security

Maintenance

Equipment Utilization

Job Costing

Productivity

Works with all on and off road machines

THANK YOU