



CONFERENCE: Nov. 15-18, 2021
TRADE SHOW: Nov. 16-19, 2021

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Maximizing ROI, Performance, and Operational Longevity with Sustainability

For Theme Parks & Attractions

November 17th 2021

Jeff Jensen, Executive Vice President



Who We Are

- Established in 1985
- Acquired by TAIT in 2021
- Headquartered in Orlando
 - Los Angeles
 - Osaka
 - Shanghai



What We Do



- Planning
- Creative Design
- Content Development
- 3D Visualization



- Design & Engineering
- Manufacturing & Field Services
- Modernization
- Sustaining Engineering
- Products



- Turnkey Project Production
- Project Management
- Standards and Specifications
- Vendor Bid Management
- Ride/Show Construction
- Safety and Regulatory Management

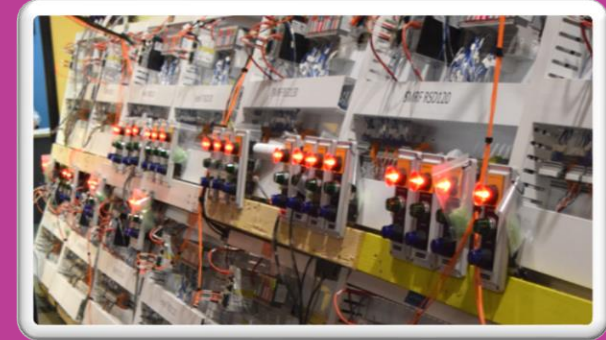
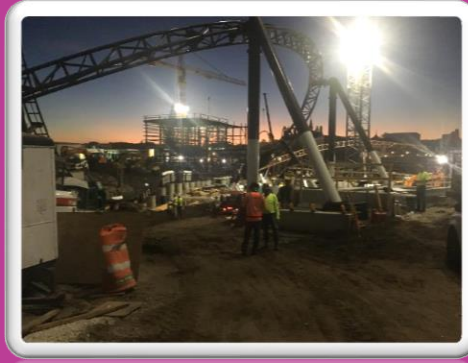
Purpose

To provide real-world insight into the modernization decision-making process for attractions.

We'll explore some of the main drivers of these decisions and offer some insight and considerations based on recent experience.

Agenda

- Definitions
- Drivers
- Considerations
- Current Projects
- Conclusion



Definitions

Sustainability:

“The Ability to be Maintained at a Certain Rate or Level”

Attraction:

A permanent installation that could be a ride, show, or cultural attraction

Modernization:

All encompassing term meant to include upgrades, modifications, and improvements to the attraction

Drivers

- Safety and Compliance
- Content updates
- Obsolescence
- Technological Advances
- Energy Savings
- Harmonization
- Cybersecurity
- End of Life
- Reliability



Safety and Compliance



- It's been around since discovery of Electricity
- NFPA hazard in 1995
- Prior focus was on shock prevention



- IEC 61508 in 1999
- Standards related to Risk identification and reduction
- Systems and Hardware



- Safety Rated Controllers and peripherals
- Developed in early 2000's
- Multiple product categories



Content



Obsolescence



- Spare Parts
- Technology drivers
- Cost drivers
- Logistics drivers

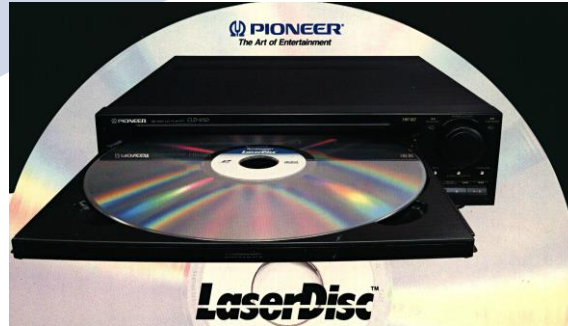


Technological Advances

1971



1990



2015



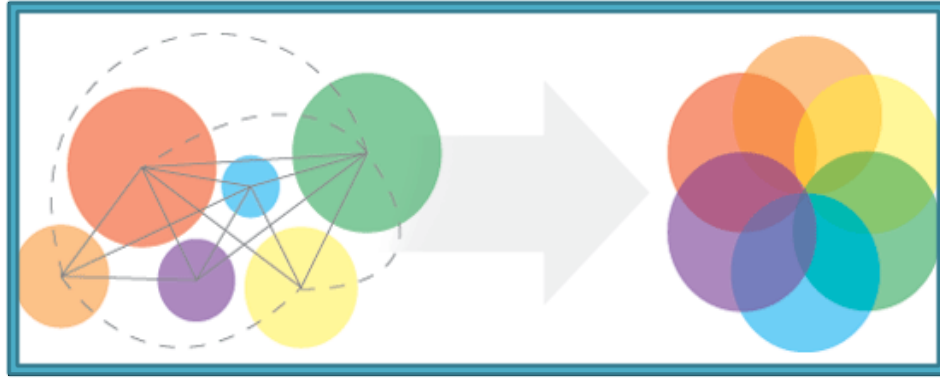
Energy Savings



- Incandescent vs. LED Lighting
- Variable Frequency Drives
- High Efficiency motors and pumps



Harmonization



- **Technical Equipment**
- **Spare parts logistics**
- **Training**
- **Software Maintenance**



Cybersecurity



End of Life

- Major Mechanical Elements



Reliability

- Maintenance Costs
- Attraction uptime
- Revenue loss



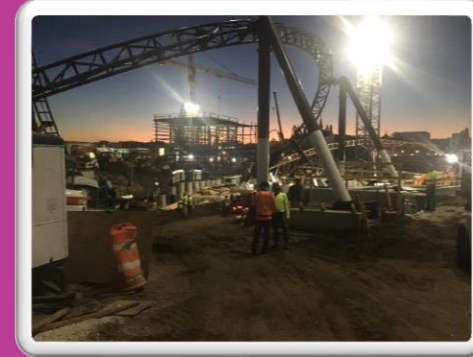
Current Projects

DRIVERS

Attraction	Original Opening Date	New Opening Date	Is Attraction Closed for Updates?	Safety & Compliance	Content Update	Obsolescence	Technical Advances	Energy Savings	Harmonization	Cybersecurity	End of Life	Reliability
Billy Graham Library	June 2007	Spring 2022	Yes		X	X	X	X		X		
Major IP Based Ride in Southern California	June 1996	June 2019	Yes	X	X	X	X	X	X	X		
Major IP Based Ride in Japan	May 2001	Summer 2023	Yes	X		X				X		
Major IP Based Ride in Southern California	May 2008	Q3 2022	Partially	X		X				X		
Major IP Based Ride in Orlando	May 2004	Spring 2022	Yes	X		X		X	X	X		
Major Roller Coaster in Orlando	August 2009	On-Going	No			X	X					X
Major IP Based Ride in Orlando	June 2010	On-Going	No			X	X		X		X	
Major IP Based Ride in Southern California	June 1990	t.b.d.	Partially	X		X			X	X		
Major Roller Coaster in Orlando	May 1999	On-Going	No	X		X			X			X

Considerations

- Technical vs. Logistical
- Cost Benefit
- Scope Creep



Conclusion

The ability to continue to generate a return on your investment over time requires regular and ongoing monitoring. Any decision to modernize needs careful consideration and analysis.

Although only a brief overview, we hope this information has shown some of the real-world factors involved in major modernization projects while providing some useful insight into the decision-making rationale.

Questions?

Thank You

Jeff Jensen, Executive Vice President

