

**BARCO**

Visibly yours

# **The Global Transformation Begins**

## **ICTA Laser Cinema Update 2017**

**Bill Beck - Barco**



# Global Transformation to LASER Projection

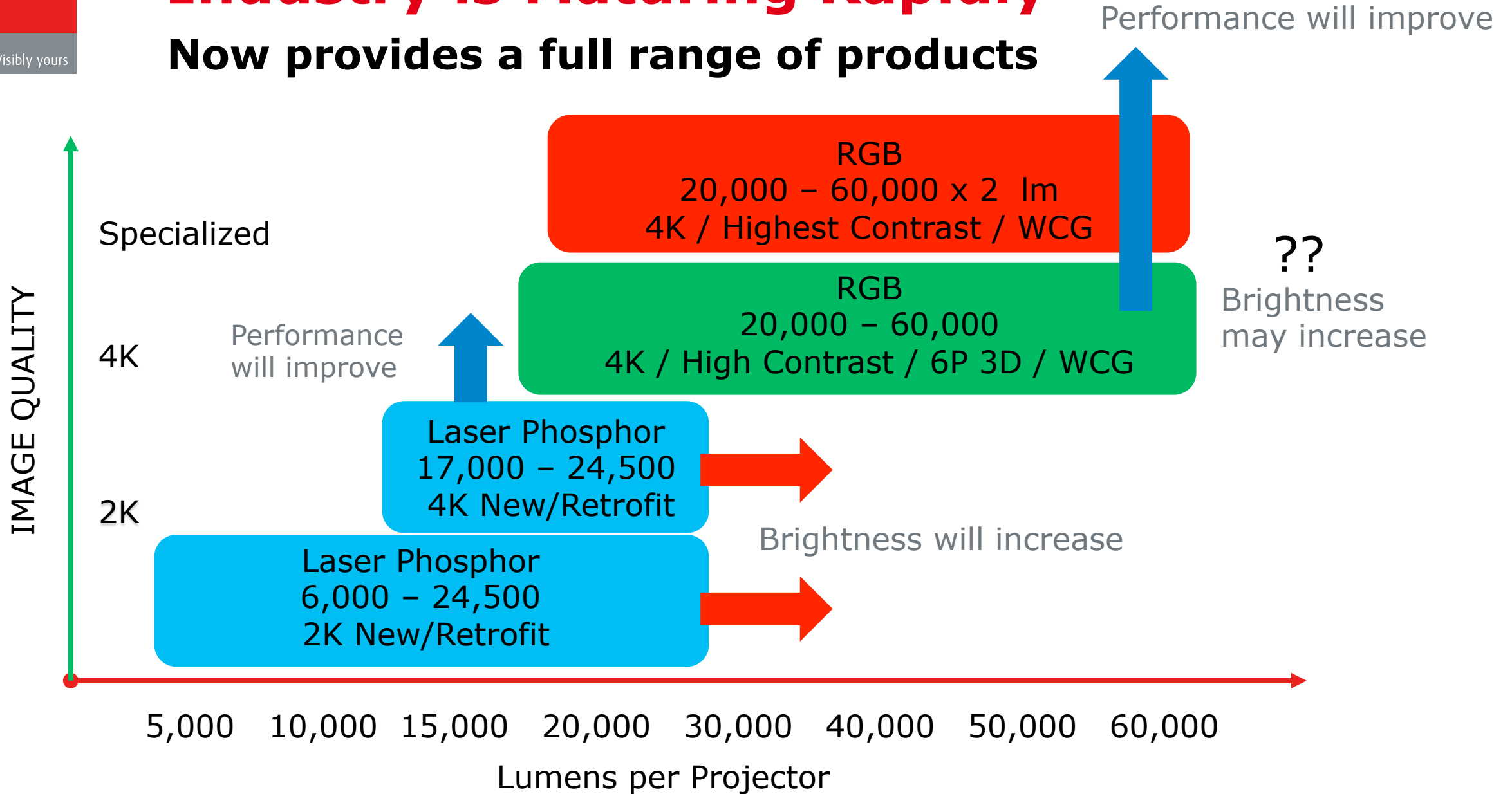
- Commercial intro – 2Q14
- RGB and Laser Phosphor (LP)
- Trials around the Globe - 2015
- IMAX and Dolby start roll-out
- 2016 – 25+ All-Laser Multiplexes

**1Q17 - Full range now available**



# Industry is Maturing Rapidly

## Now provides a full range of products



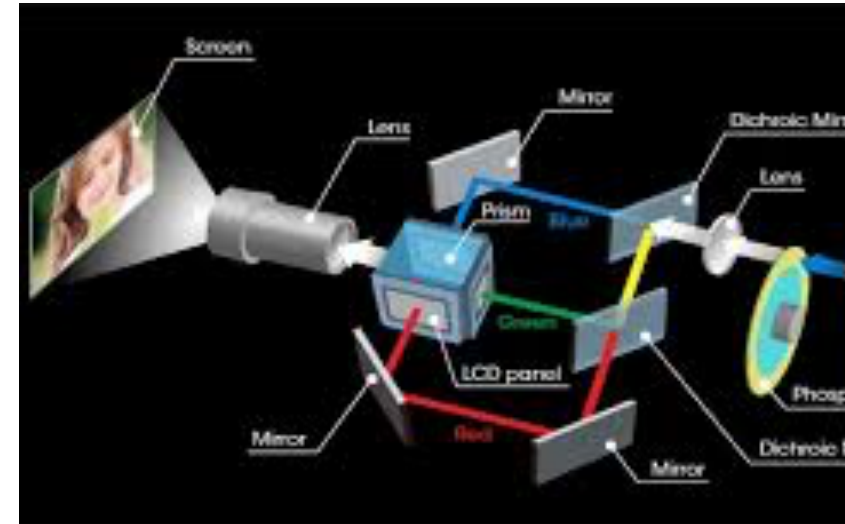
# Recent Technical Progress

## Big Progress - **Blue** Laser-Pumped Phosphor

- **Lower cost lasers and cooling** now achieve both TCO crossover and improved image quality
- DCI compliant products from **6,000 to 24,500 lm**
- **Multiple 4K models** now available
- 30,000+ hour lifetime for typical theater operations
- Low speckle enables use with high gain silver 3D

### And RGB...

- RGB and LP both improve sequential contrast
- RGB now available at 6,000:1 and 1,000:1 ANSI





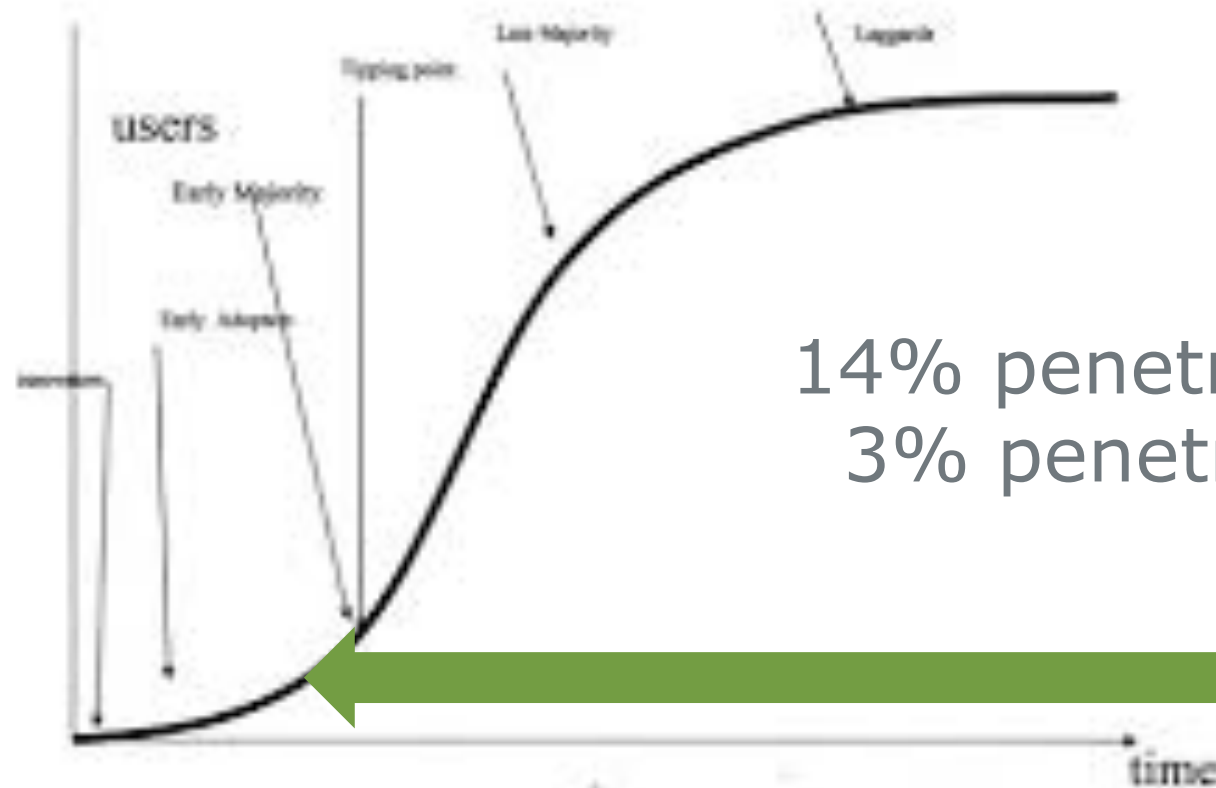
# Global Markets Laser Status



# All Systems GO!



## Diffusion S Curve



14% penetration of PLF      ~350  
3% penetration of total      ~5,050

**WE ARE HERE**

# Key Laser Global Metrics

- 🔗 >65 exhibitors worldwide
- 🔗 >30 countries on 6 continents
- 🔗 >25 All-Laser Complexes
- 🔗 ~350 PLF Screens
- 🔗 ~4,700 Laser Phosphor Screens
  - New Projectors
  - Field Retrofits

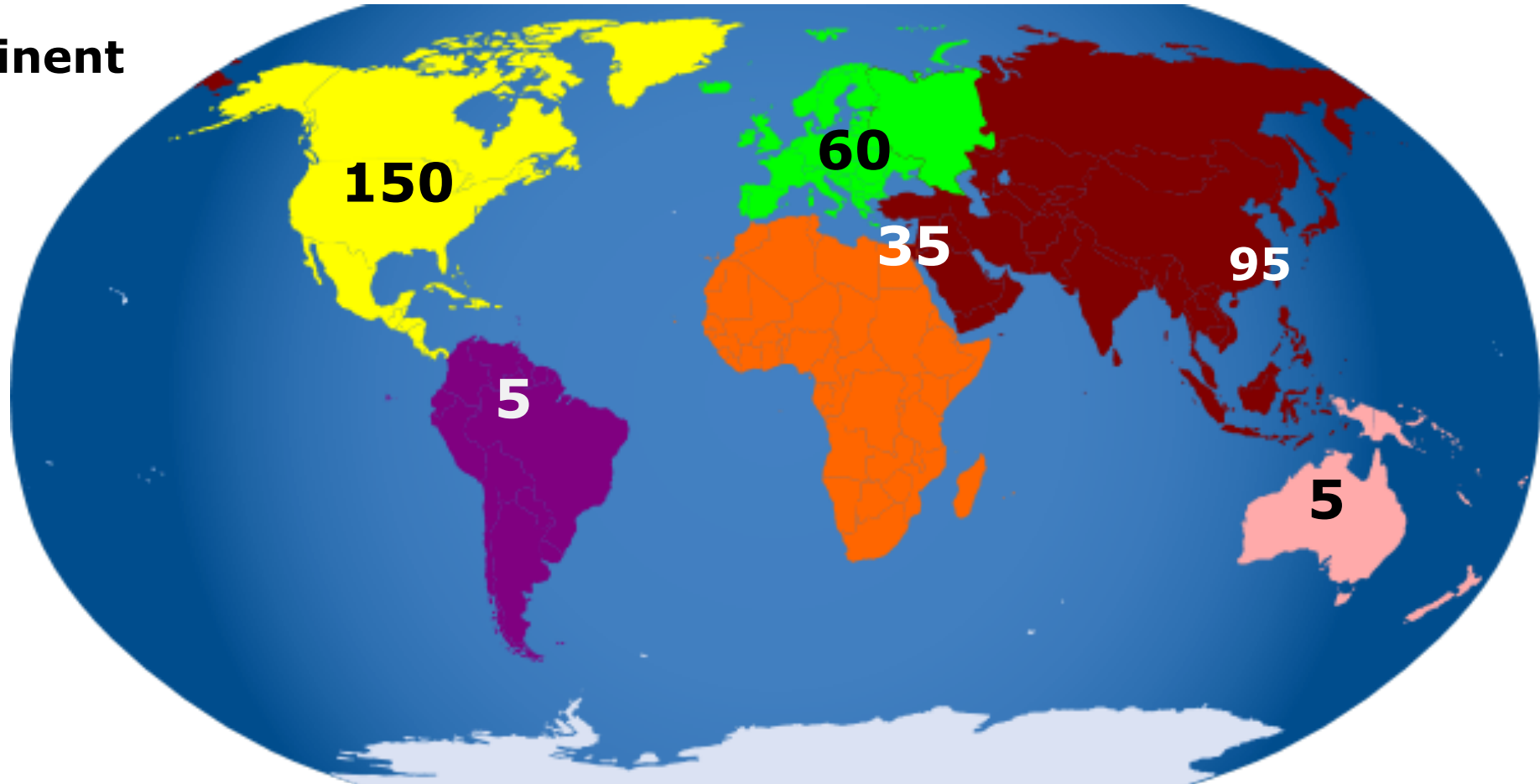


# PLF Transformation is Already Global

Laser is transforming PLF on every continent

## Laser PLF By Continent

- North America - 150
- Latin America - 5
- Europe - 60
- MEA - 35
- Asia Pacific - 95
- ANZ - 5





# MOVING RIGHT ALONG...

*...and accelerating fast!*

## Global Screen Count @160,000

May 2016  January 2017

~150 Laser PLFs

~350 Laser PLFs

~10 All-Laser Multiplexes

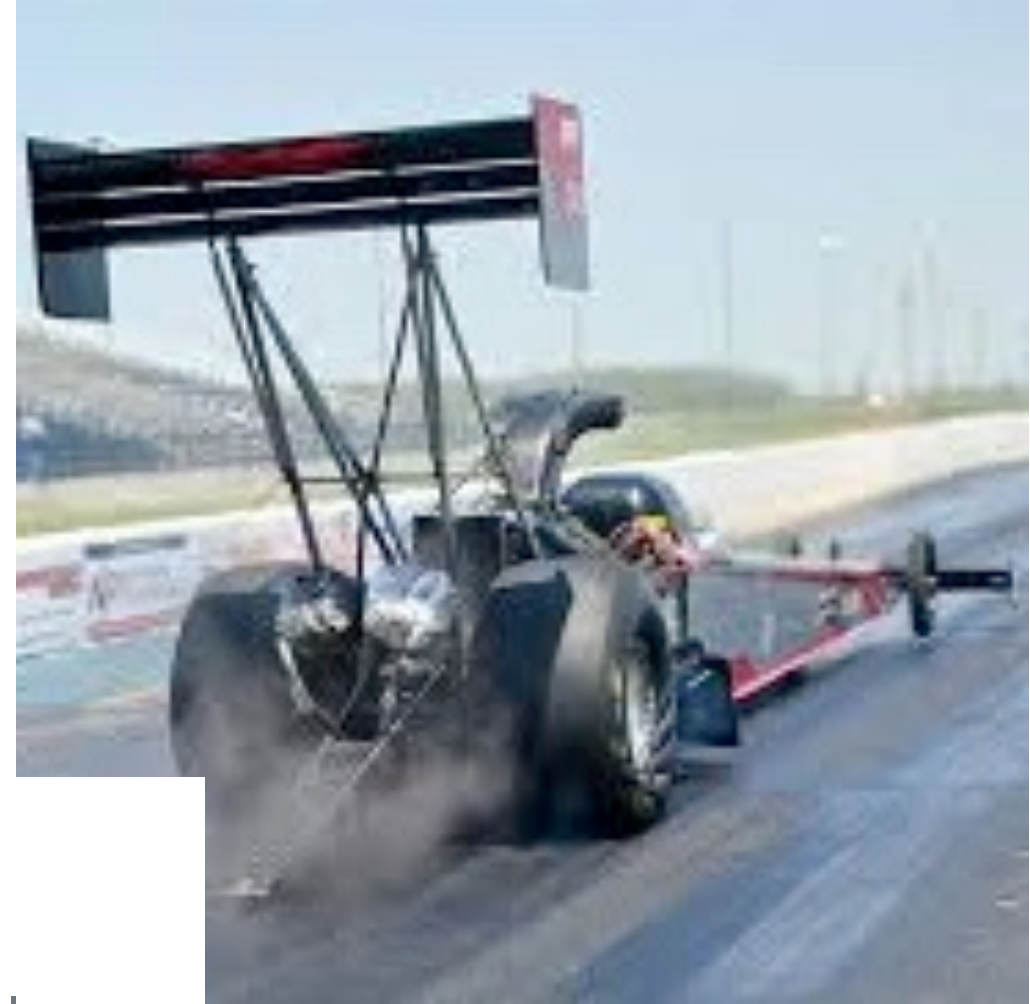
>25 All-Laser Multiplexes

~1,500 LP Screens

~4,700 LP Screens

Laser Phosphor 18,000 Im

Laser Phosphor 24,500 Im



# LASER Projectors for all Cinema Applications

## Brightness, Image Quality, Lifetime

- ❧ **RGB Systems 20,000 - 120,000 lm**
  - Integrated (Lasers in the box)
  - Fiber-coupled (Laser out of the box)
  - Single and Dual Projector solutions
- ❧ **Laser Phosphor (LP) 6,000 - 24,500 DCI lm**
  - Integrated (Blue lasers in the box)
  - In-the-field Retrofit
- ❧ **4K and 2K resolution**
- ❧ **3,000:1 to >100,000:1 Sequential Contrast**
- ❧ **1,000:1 ANSI Contrast**
- ❧ **30,000+ hour lifetime**
- ❧ **30-50% Lower power consumption per lumen**



# Premium Laser Theaters

## Transformation Drivers

**"Wow"  
Experience**

### ❧ Higher Revenues per screen

- Higher Ticket prices for "Laser PLF"
- Higher Attendance/Frequency for Premium Experience
- Higher Attendance/Satisfaction for Brighter 3D

### ❧ Customer and Focus group confirmation

- Strong link between experience and commercial behavior

### ❧ Premium laser also reduces OPEX

- Huge lamp and power savings

# Laser Phosphor enables All-Laser Multiplex

## Transformation Drivers

- ❖ **Superior image quality**
  - Consistent brightness and color
- ❖ **Simpler Operation**
  - Wide range of brightness levels
  - No lamp changes
  - Reduced maintenance
- ❖ **Reduced Operating Costs**
  - No lamp or lamp-related costs
  - Significantly lower power costs
  - Lower Labor Costs

**TCO  
CHAMPIONS**

# The All-Laser Multiplex

## RGB lights the way – LP completes the picture

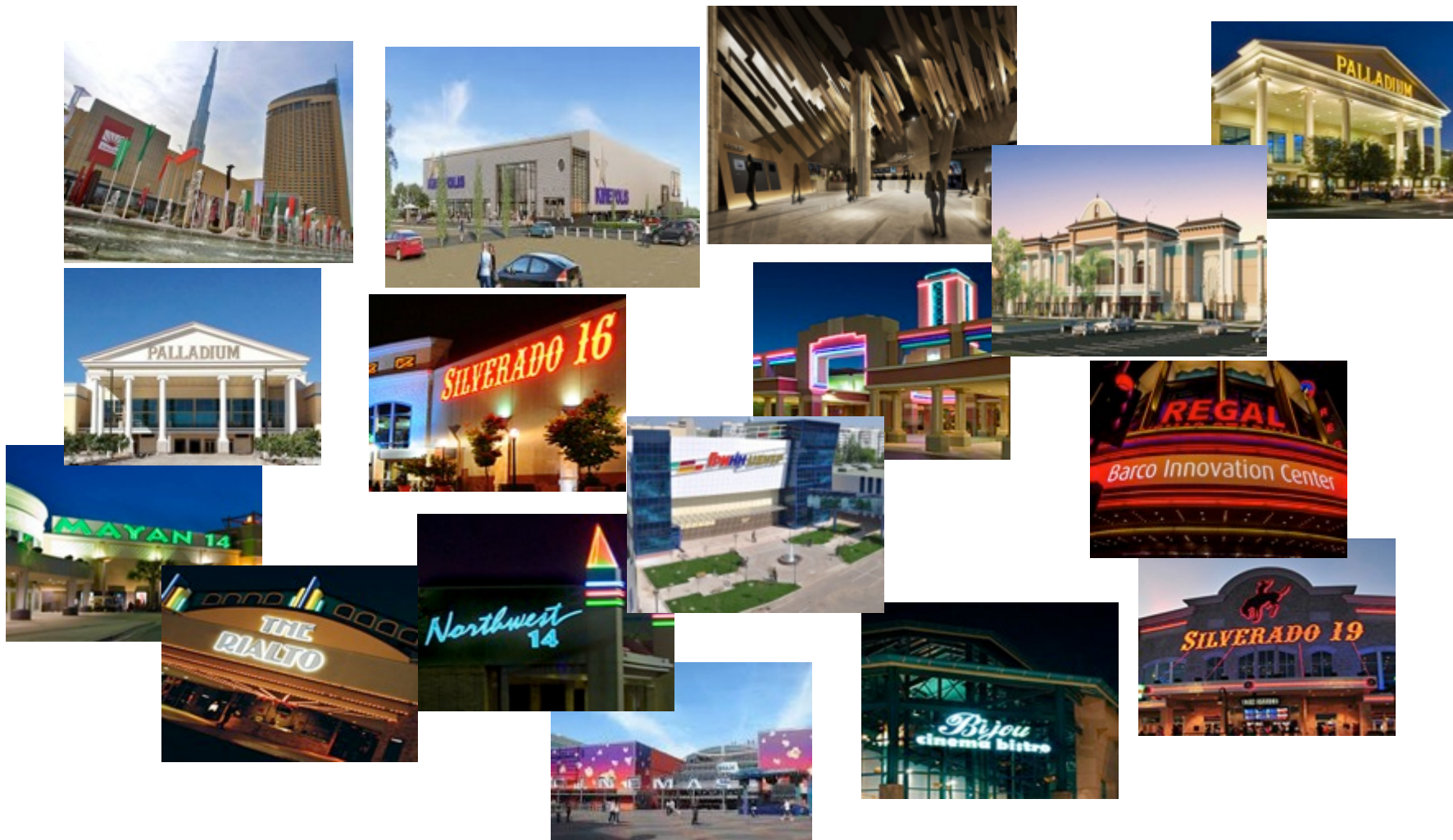
- ❧ Complete lines of RGB and LP are now commercially available
- ❧ 6,000 – 120,000 lm
- ❧ 2K and 4K
- ❧ Premium Image and TCO winners
  
- ❧ 25+ All-Laser Multiplexes already

LAMPS WILL START TO FADE QUICKLY!



# All-Laser Multiplexes are a Reality Today

>25 All-Laser multiplexes ... many more to come



# Predicting the Laser Transformation

- ❧ All *NEW* PLFs: RGB laser by 2018
- ❧ >50% of new projectors: RGB/LP by 2018
- ❧ >50% of new multiplexes: All-Laser by 2018
- ❧ Laser Phosphor will take 60-80% of total laser screens
- ❧  $\geq 2$  brands have stopped developing new lamp projectors
- ❧ 1-2 Xenon lamp suppliers will drop out by 2020
- ❧ More RGB and LP models from more suppliers
- ❧ New Laser and Imager technology is emerging





Thank You!

