

DigiTraining Plus 2015

# European Cinema of the Future

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# Does Cinema even have a Future?

- ◆ Disappearing release windows.
- ◆ Improving Home Cinema
- ◆ Lure of the Internet
- ◆ Personal device addiction
- ◆ New entertainment experiences
- ◆ Shortage of personal time
- ◆ 'Consume on the go' culture

# Constants

- ◆ We like variety – so we go out.
- ◆ We like safe and easy.
- ◆ We like to be with friends.
- ◆ Our lives revolve around stories.
- ◆ Interested in other people and places.
- ◆ We like to dream and escape.

# Changing

- ◆ While people stay the same, technology is changing.
- ◆ The only constant thing about technology is the rate of change.
- ◆ Underpinning rate of change of micro-electronics has been steady for last 68 years.

# Rates of Change

- ◆ **Evolution** happens as things change by a factor of 2, or 3 times.
- ◆ When things change by a factor of 10 times we think of it as **Revolution!**
  - Walking --- Driving --- Flying
  - e.g. Industrial Revolution and Steam Power

# Electronics driving Change

- ◆ Micro-electronics is changing at a rate of 10 times every 5 years.
  - Constant for last 7 decades.
  - Enabled by semiconductor progression
    - ◆ Smaller devices
    - ◆ Bigger Wafers/Chips
    - ◆ Higher occupancy
  - Which enable
    - ◆ Lower costs, lower power, higher performance

# What has this produced?

- ◆ Computers that are revolutionising our lives.
  - Mainframes, Minicomputers, PCs
  - Personal Devices – iPhones, iPads,
  - Wearable devices – Eyewear, wristwear, implants
- ◆ New age Photonics that are revolutionising communications.

# The 'Internet of Things'

- ◆ Computational capability and low cost high speed connectivity means we can see a time where everything is connected.
- ◆ We already have connected
  - Cameras, Cookers, Swimming Pools, Thermostats, Light Bulbs, Power sockets, Cars
- ◆ Rapidly becoming Wireless.



# And People

- ◆ Growth of Social networks is staggering
  - Facebook, Twitter
  - WhatsApp
  - Instagram, Snapchat
  - Periscope
- ◆ Google, Facebook, changing the face of marketing and advertising.

# Prospects for Future Cinema

- ◆ Story-telling likely to remain an essential part of entertainment.
- ◆ TV and Home Cinema will offer improving pictures and sound.
- ◆ More entertainment will be consumed on the fly **BUT**
- ◆ Cinema Entertainment ticks the boxes of 'Special Experiences with Friends'

# Why Theatre, Sports & Concerts?

- ◆ Why do people still go to public events like Sports, Theatre and Concerts.
  - See it better on TV.
  - Hear it better on CD
  - No travel from home
  - Cheaper.
- ◆ Shared experiences and emotions are more exciting.

# Cinema Survival

- ◆ In 100 year history of Cinema, industry has had to re-invent itself with innovation in design, technology and marketing.

# Historical Innovations

- ◆ Motorised Projection
- ◆ Sound
- ◆ Colour
- ◆ Widescreen
- ◆ Stereo Sound
- ◆ Cinemascope
- ◆ Surround Sound
- ◆ 3D

# Design Innovations

- ◆ Food and Bev. Concessions
- ◆ Curved screens
- ◆ Comfortable seating
- ◆ Raked Seating
- ◆ Stadium Seating
- ◆ Comfortable seating
- ◆ Large format
- ◆ Luxury service

# Service Innovations

- ◆ Membership services
- ◆ On-line booking
- ◆ In house dining and bars
- ◆ Service to seat
- ◆ Programming by Demand
- ◆ 'Guest' oriented services

# Improving the Pictures

- ◆ 3D Brightness to 2D Standard
- ◆ Extended Dynamic Range
- ◆ Artifact free motion.
- ◆ Pixel invisibility.
- ◆ Full spectrum colour
- ◆ Intelligent Exit Lights
- ◆ Glasses-free 3D.



# Improving the Sound

- ◆ Better calibration and maintenance.
- ◆ Higher quality speakers and amplifiers
- ◆ More distributed sound field.
- ◆ More precise sound field.
- ◆ Clearer dialogue
- ◆ Personal dialogue level control.
- ◆ Sound-level selectability by screen?

# Improving the In-Seat Experience

- ◆ No eating zones.
- ◆ No mobile zones.
- ◆ Feature start times.
- ◆ Selectable 4D effects.
- ◆ Ultimate comfort seats.
- ◆ Unobstructed sight lines.
- ◆ Uninvasive exit lighting
- ◆ Seats for Digital Natives?

# Essential Changes Required

- ◆ Easy to know what shows are on.
- ◆ Easy to book seats.
- ◆ Easy to park.
- ◆ Premium experience guaranteed.
  - Screen, Sound, Seating, and Service
  - Every seat without compromise.
- ◆ Choices of Food and Beverages
- ◆ Retail hub for content collectors.

# PLF or PSF?

- ◆ Premium Large Format screens
  - Big Sound and Picture
- ◆ Premium Small Format Screens
  - Small Intimate High Service Level
  
- ◆ Cinema is a Large Format Experience

# Looking Further Out

- ◆ How will we leverage the digital society apart from marketing?
- ◆ Can we define new big screen experiences that require personal interaction?
- ◆ Can we make interaction unobtrusive with compatible eyewear?

# Public Storytellers?

- ◆ Consumer video has already changed news coverage.
- ◆ Can we leverage a world of integrated movie cameras?
- ◆ Can we harness more creativity by hosting personal stories in a public forum? Public You-tube?

# New Storytelling Tools

- ◆ New Cameras able to capture better images with higher dynamic range.
- ◆ Smaller, cheaper cameras changing the image acquisition processes.
- ◆ Production and Post tools allow a new world of Virtual Cinematography that makes any set in any place possible.
  - Pre Visualisation and acting becoming much harder.

# Animation

- ◆ Animation enjoys the most leverage from technology with more powerful computing.
- ◆ Difference between animation and reality will be undetectable in 5 years.
- ◆ Motion Capture and Animation render into a new art form.
- ◆ Cloud and Distributed Computing will drive down post production costs.



# Should Cinema go Duplex?

- ◆ Just now the cinema-going experience is a receive-only activity.
- ◆ Could it be a hub in a global network communication sharing experiences across communities?
- ◆ Event Cinema promises new audiences but technical complexity out of phase with technical support.

# Technological Enablers

- ◆ Faster processors, More Memory
  - Cameras, Post Production, Projectors
  - Satellite Receivers and Signal Processors
  - Cheaper Memory for servers.
- ◆ Faster communications
  - Backbone global fibre networks
  - In theatre networks
- ◆ High Speed Wireless Connections
  - Easier communal participation

# Technical Enablers

- ◆ Lower cost laser light sources.
- ◆ Better image compression.
- ◆ Dynamics control in loudspeakers.
- ◆ Phased transducer arrays.

# Harder Stuff

- ◆ Optics doesn't scale like electronics.
- ◆ Power supplies and lamps on slower learning curve.
- ◆ Screens are very low volume items
- ◆ Speakers and Seating don't scale with theatrical volume.
- ◆ Cooling still an economic challenge.

# General Impact

- ◆ Cheaper bigger flat screens.
- ◆ Better connectivity for everything and everyone.
- ◆ All content will be available in 10years.
- ◆ Multi-projector shows viable for further immersion.

# Cinema Programming

- ◆ Distribution still in Dark Ages with current models.
- ◆ Much more flexibility available but not allowed.
- ◆ Changing demographic wants to see new movies over longer period.
- ◆ Demand based programming easy to do but not really on offer.

# Demographics

- ◆ Cinema patrons are ageing.
- ◆ Less accessible than the singles market.
- ◆ Content must quickly adapt.
- ◆ Social Media and Web companies will quickly drive marketing programs.
  - The older audiences are harder to reach
- ◆ Event Cinema will reach new patrons if done properly.

# Summary

- ◆ Cinema format unlikely to be replaced in next ten years
  - Social, communal, external, exciting.
- ◆ But experience must surpass home TV.
  - Pictures, Sound, Scale, Comfort.
- ◆ Must offer competitive choice that is easy to discover, book and attend.
- ◆ Must suit current social culture.



# Finally

- ◆ Success of cinema entertainment totally depends on the availability of great stories, performed well and delivered to lift and carry us into new places.
- ◆ They will continue to inform, inspire, amuse, surprise, scare or simply entertain us like no other art form.

DigiTraining Plus

**'What do you do with digital now  
you've got it?'**

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# Getting the Most from D-Cinema

1. Focus on presentation quality
2. Utilise Programming (tech.) flexibility
3. Offer alternative experiences.
4. Improve theatrical experience

# Genesis of Digital Cinema

- ◆ Born from two key studio requirements.
  - Avoid film reproduction costs
  - Improve image quality (consistency)
  - And one big worry – piracy.
- ◆ Delivered much more ...
  - Uniformity, Colour, 3D, HFR, Resolution  
HDR Sound, Alt Content capability,  
Programming Flexibility, Reliability and  
Security.

# Presentation Quality

## ◆ Components of Image Quality

- Focus – lens and alignment
- Brightness – lamp, reflector, optics, screen
- Contrast – optical path, screen age
- Uniformity - alignment, optics
- Colour - calibration
- Resolution
- Theatre
- Masking – setup, curtains

# Components of Sound Quality

- ◆ Setup and Calibration
- ◆ Room (Isolation and Damping)
- ◆ Amplifiers
- ◆ Speakers
- ◆ Cabling

# Programming Flexibility

- ◆ Electronic media enables more features to be stored and downloaded.
  - More rated versions (not yet used)
  - More language versions
  - More disability versions
  - Screen optimization (supply and demand)



# Alternative Programming

- ◆ Event Cinema Shows
- ◆ Local Screenings
- ◆ Media-hub opportunities
- ◆ All require good tech support
- ◆ All require active campaign marketing
- ◆ New revenue and event opportunities



# Digital – Platform for the Future

- ◆ Pictures
- ◆ Sound
- ◆ Interactive and On-Line
- ◆ Immersive

# What Next - Pictures

- ◆ Brighter 3D
- ◆ More Uniform brightness 3D
- ◆ Higher Dynamic Range (HDR)
- ◆ Higher Speed Pictures (HFR)

# What Next - Sound

- ◆ Immersive sound
  - Full Range Surrounds
  - Lower Distortion Systems
  - More Sound Sources & Positions

# What Next - Interactive

- ◆ Opportunities for patrons and advertisers.
  - Game and Quiz centric systems leveraging smart phone ownership/mentality
  - New advertising opportunities with in-show invitation to participate.
  - Still new but now becoming viable.
- ◆ High Bandwidth On-Line coming.

# What Next - Immersive

- ◆ Wrap around screens are this year's hot newcomer with some support
  - Philips Light Vibes
  - Barco Escape
  - CGV Screen X
- ◆ Virtual Reality moving to Cinema from games culture.

# Summary

- ◆ Future of Cinema is dependant on superior sound and picture quality.
- ◆ Programming flexibility is untapped
- ◆ Digital provides a platform for many enhancements
- ◆ Digital device integration is next major step forward.