

DigiTraining Plus
New Technologies for the European Cinemas of the Future

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 67 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
- ◆ Google, Facebook, beginning to change 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
- ◆ 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.