



VISUAL DISPLAYS

Autumn 2020 Webinar Programme

What is ALR screen technology and how can it transform your client offering and their experience?

DISPLAYS, LIGHT & ENVIRONMENTAL EXPERTISE

PRODUCTS, SERVICES, SPECIALIST CONSULTANCY

Presenter – Greg Jeffreys



- ▶ Managing Director, Visual Displays (formerly Paradigm AV)
- ▶ Specialisms include standards, displays, light & lighting, VC lighting, teaching space & meeting room design
- ▶ Chair, AVIXA Standards Steering Committee
- ▶ Task group member, AVIXA's new UX for AV Design standard
- ▶ Task group chair ANSI/AVIXA DISCAS standard – image size, resolution, viewing positions/angles, content size guidance
- ▶ Lead writer, PISCR image contrast standard – and new ISCR standard task group
- ▶ President of InfoComm/AVIXA 2012, board member 2008-13
- ▶ Former visiting lecturer, UMIST – post-grad MSc *Sustainable Electronic Building Design* (Prof Geoff Levermore)
- ▶ Proud associate of AV User Group!



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Questions?

PLEASE KEEP QUESTIONS COMING DURING THE WEBINAR!

USE Q&A AND CHAT

Background



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- ▶ The future is bright for projection in socially distanced spaces
- ▶ Viewers will be spaced to the back of the room
 - ▶ AV-enabled spaces will be larger
- ▶ Use of DISCAS standard says above 6m room depth, 100" displays = minimum requirement
 - ▶ From 90", projection = best value, in any case
- ▶ Laser projectors are maintenance free and managed/monitored on network exactly the same as flat panels/LFDs
- ▶ BUT – users forget that viewers look at the screen, not the projector
 - ▶ Using optical screen technology, viewers can have a better experiences at lower costs

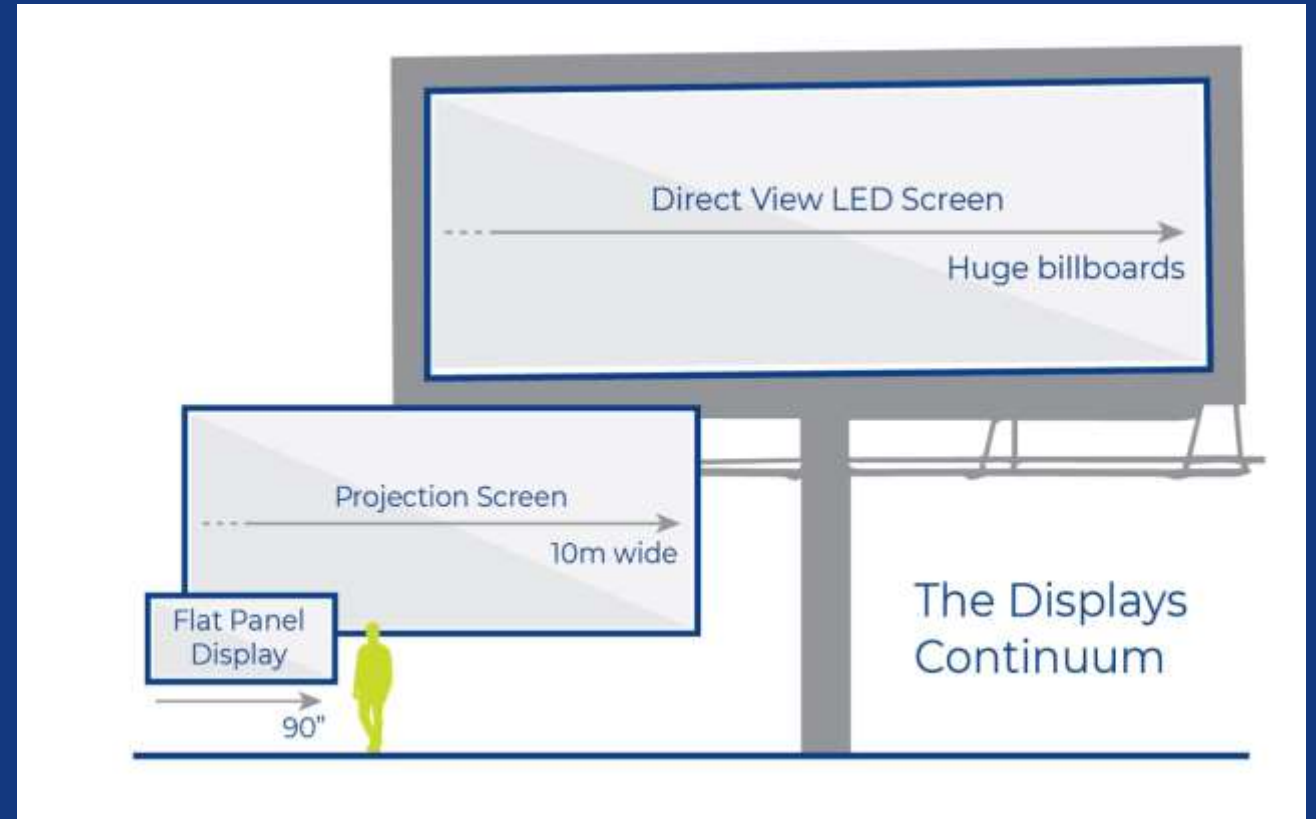
The displays continuum



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- ▶ Up to 90" – flat panels (LFD, FPD)
- ▶ Above 90" – ALR projection
- ▶ Variable entry point for dvLED

***Ambient Light Rejecting
screen technology unlocks
and fulfils this continuum***



Working to Standards

Working to delivered performance metrics



- ▶ Everything today is about complying with DISCAS – getting it right for:
 - ▶ Image size
 - ▶ Image resolution
 - ▶ Closest & farthest viewing positions
 - ▶ Horizontal & vertical viewing angle limits
 - ▶ Correct content size (font, character height)
- ▶ Everything today is about complying with ISCR
 - ▶ New version of PISCR that includes ALL DISPLAY TYPES on a level playing field
 - ▶ Image contrast (= image quality and perceived resolution)



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Here's Johnny!

Johnny Jensen, dnp denmark's Global Product Manager



VISUAL DISPLAYS

Package code	Complete Laser Display Package Description	Image size (inches diagonal)	Image size (mm width x mm height)	Epson Projector Model	Projector lumens (max)	Installed Image Resolution (can also be installed as 1920 x 1200)	dnp Supernova ALR Screen Model	Image Brightness (max, cd/m ²)	Notional PISCR Image ANSI Contrast at 150 lux downlight on-screen. (Min required for BDM category = 15 : 1)
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www.visualdisplaysltd.com

* 4K pixel resolution, pixel shift technology.

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Complete Laser Displays

ALR laser projection displays 100" to any size, for optimised viewing from everywhere in the room, even in brightly lit spaces.

www.visualdisplaysltd.com

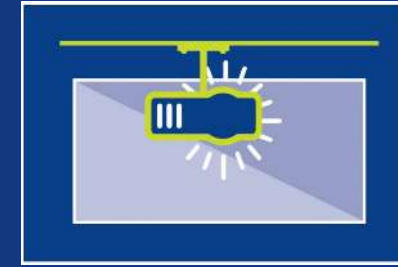


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Complete Laser Displays

Standards-compliant large screen displays



- ▶ Complete bundled packages, Epson projector (with warranty), dnp screen & Epson mount.
 - ▶ 100", 110" & 120" with UST projectors
 - ▶ 100" to any size with standard lens laser projectors
 - ▶ Furniture & bespoke options available
- ▶ Specify & procure complete displays as single SKUs
- ▶ Fraction of £cost/m² compared with LFD, dvLED etc
- ▶ *Available through all AV integrators/resellers*



Using standards to move projection into the displays continuum



Image size " diagonal	Image width	Image area	Lumens required for ?	Lumens required for ?
			Cd/m ² [nit]	Cd/m ² [nit]
			350	500
100	2.21	2.76	3,787	5,410
110	2.44	3.34	4,582	6,546
120	2.66	3.97	5,453	7,791
130	2.88	4.66	6,400	9,143
140	3.10	5.40	7,423	10,604
	3.5	6.89	9,466	13,523
	4	9.00	12,364	17,663
	5	14.06	19,318	27,598

You can sell complete standards-conforming video displays using single SKUs



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Designing out asthenopia (eye strain) & designing IN great viewing experiences

	Ambient light in lux			
	300	400	500	<i>You should have 300-500 lux on a meeting room table</i>
Peak Gain of task (eg paper)	1	1	1	
<i>TASK LUMINANCE =</i>	96	127	159	cd/m ² [nit]
Task luminance ratio	3	3	3	: 1
<i>MAX DESIRED IMAGE LUMINANCE =</i>	287	382	478	cd/m ² [nit]
ISCR contrast ratio required	15	15	15	: 1
<i>MAX PERMITTED BLACK LEVEL (relative to the max white level permitted on your image)</i>	19	25	32	cd/m ² [nit]
<i>MAX PERMITTED LUX ON SCREEN (ambient light must be at or below this level onscreen to achieve the 15:1 required for PISCR Basic Decision Making category)</i>	60	80	100	lux



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Specialist manufacture, distribution, services.
Supporting AV integrators to excel.

DISPLAYS, LIGHT, ENVIRONMENTAL & STANDARDS EXPERTISE

Visual Displays Ltd



Specialist manufacture, distribution & services

Working in partnership with & through the channel

▶ Products

- ▶ dnp Supernova ALR (ambient light-rejecting) projection screens
- ▶ Complete Epson laser display bundles – from 100" to any size
- ▶ Comprehensive projection screens, materials
- ▶ Immersive displays
- ▶ Bespoke display & mounting solutions
- ▶ Bespoke interactive displays
- ▶ Daylight control (blinds)

▶ Services

- ▶ Display design and specification
- ▶ Parametric 3D CAD design
- ▶ Expert tender response support and consultant liaison
- ▶ Space redeployment design for social distancing
- ▶ System troubleshooting
- ▶ Room surveys and audits (using meters & reporting to standards)
- ▶ Proof of concept
- ▶ Specialist sub-consultancy to AV consultants

Ambient light rejecting screens

...best known for dnp Supernova



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dnp
Supernova
08-85

dnp
Supernova
23-23

Standard white
Da-Lite
gain 1

See full Gary
Kaye ISE
video here -

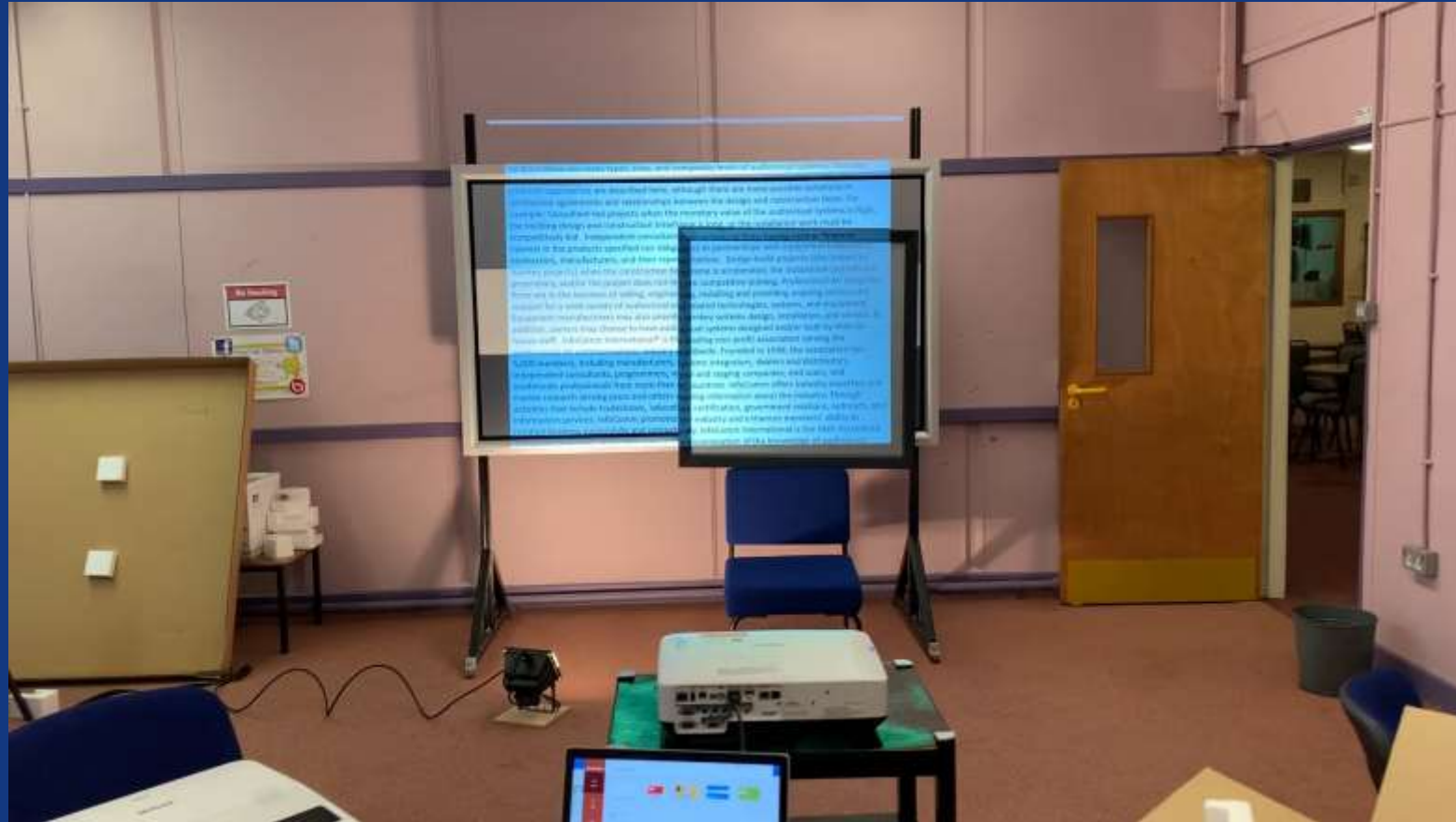
<https://www.dnp-screens.com/en/video/dnp-ambient-light-rejecting-screens-at-ise-2015/>

<https://www.dnp-screens.com/>

ALR technology demonstration



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Play video here -
<https://www.youtube.com/watch?v=i82O9xYxRxk>

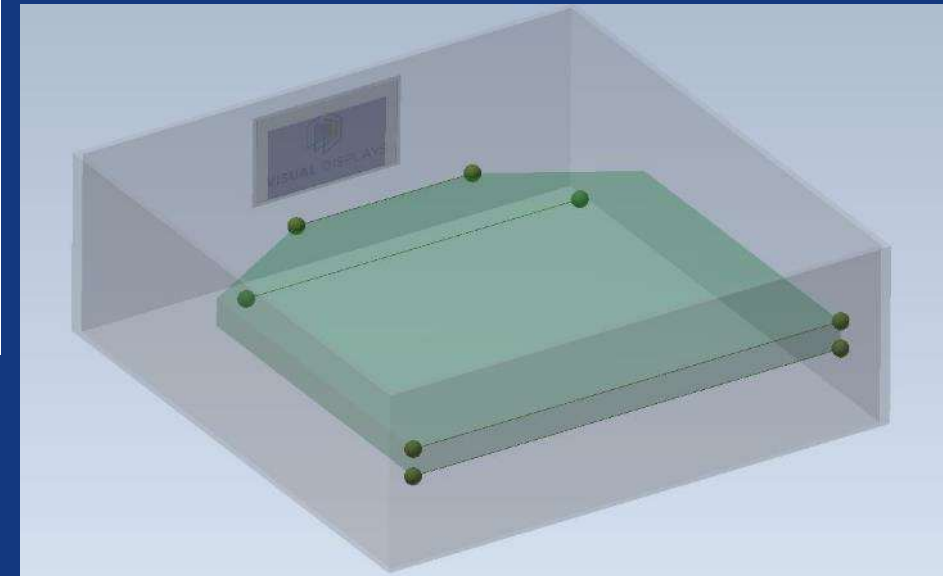
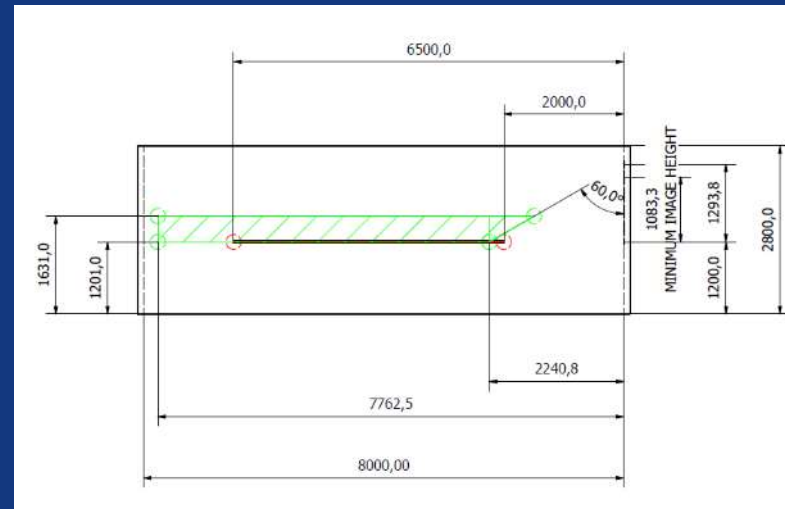
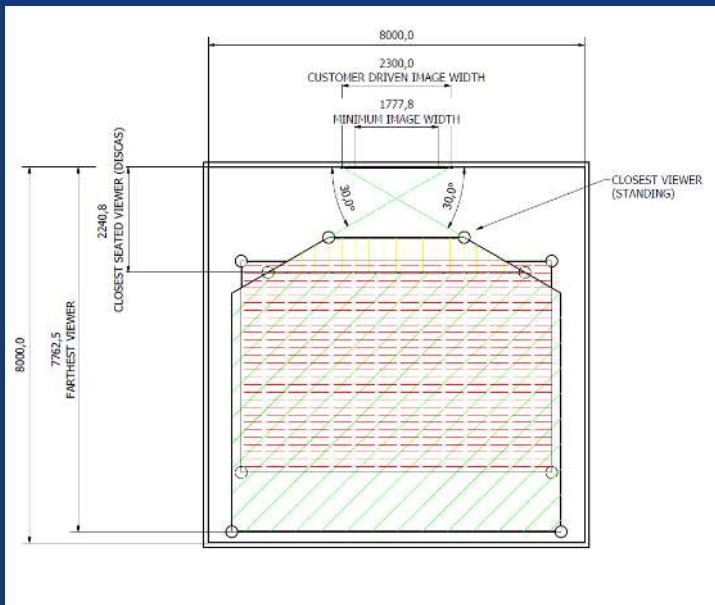
Ambient Light
Rejecting
projection
materials

DISCAS CAD tools

Formulae in parametric 3D CAD (+ renderings)



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Projects



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TV STUDIOS



RETAIL & SIGNAGE



INTERACTIVE
DISPLAYS,
FLOORS –
ANYTHING!



PEPPER'S GHOST

We specialise in challenging projection projects



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UNUSUAL SHAPES & SIZES



CONTROL ROOMS



LARGE SCREEN INTERACTIVE

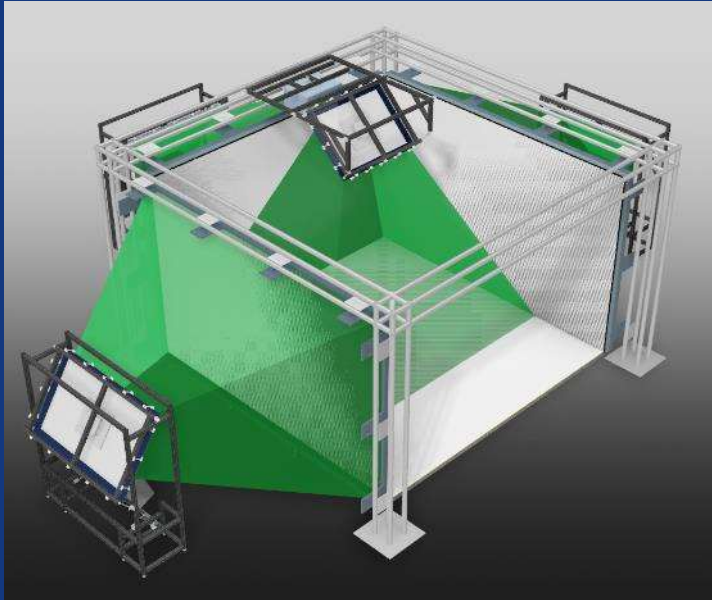


SHOPPING MALLS

Immersive displays



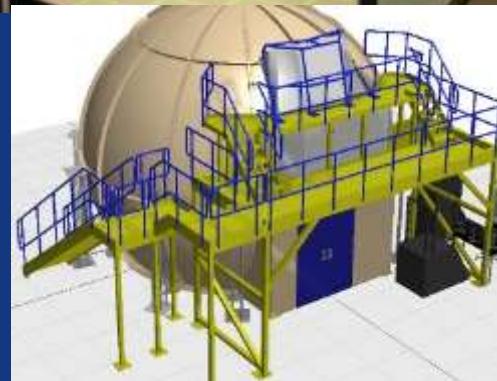
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CAVES



CURVED SCREENS



LARGE SCREEN
INTERACTIVE



CURVED
SCREEN



IMMERSIVE, SIMULATION, AR,
VR, CR etc

Mirror systems



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MIRROR RIGS,
FLOOR PROJECTION



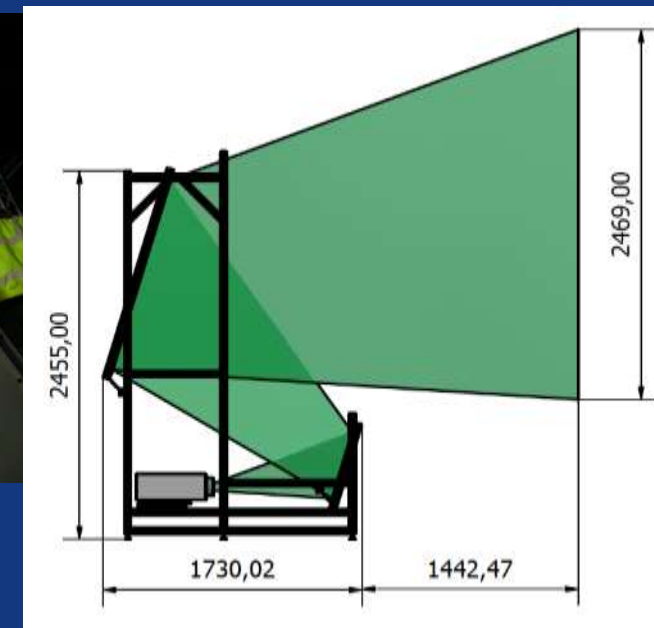
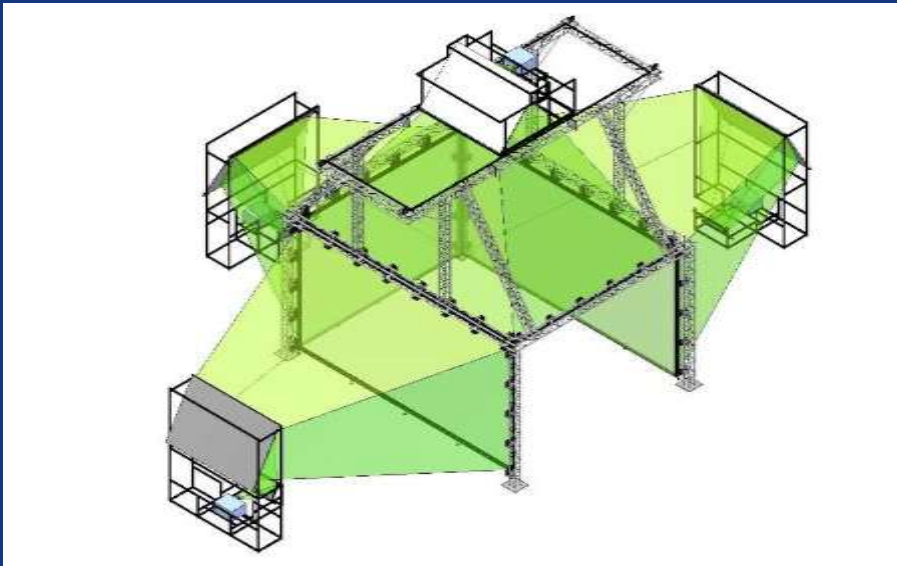
MULTI-PROJECTION

World-leading 3D CAD design and bespoke manufacture



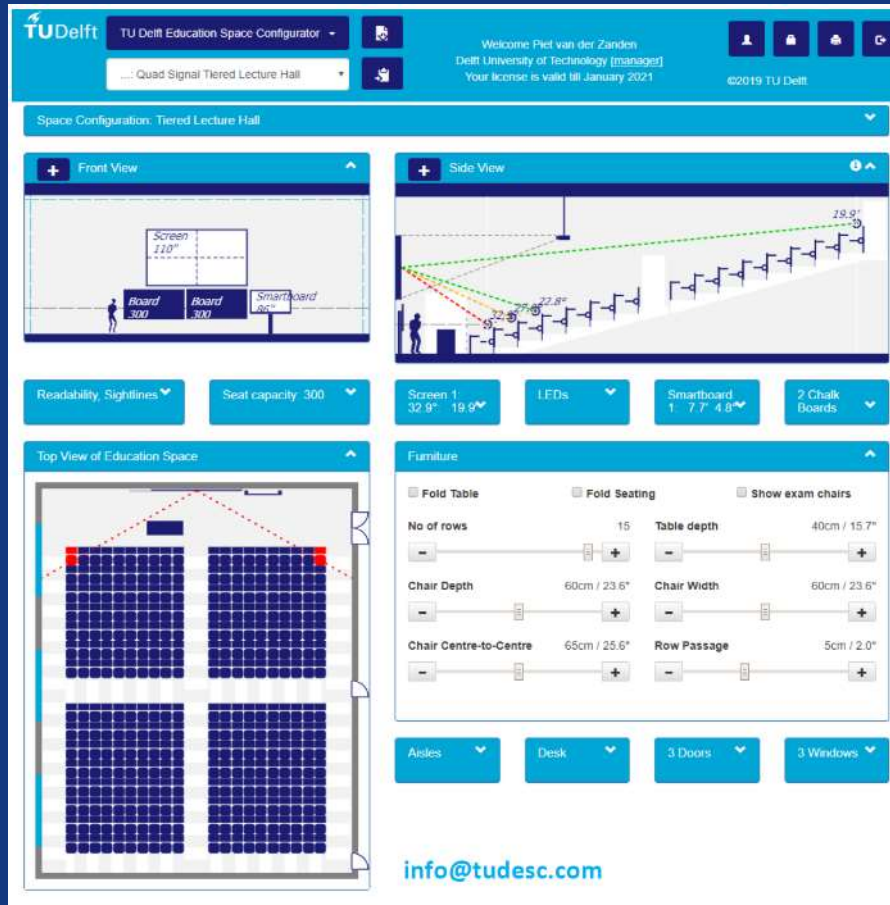
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- ▶ Full support for consultants
 - ▶ Full design & CAD
 - ▶ Unique system specification ref for tenders



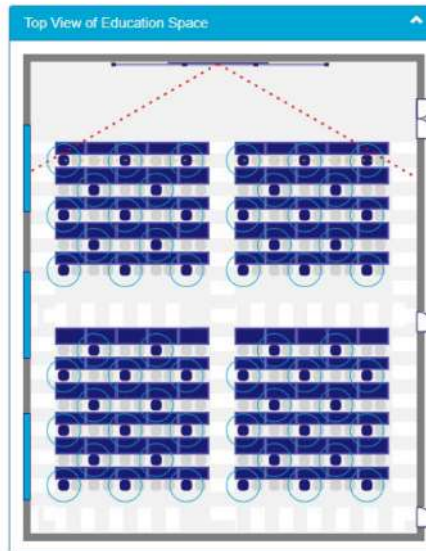
Social distancing space configurator

Complete space configuration and management

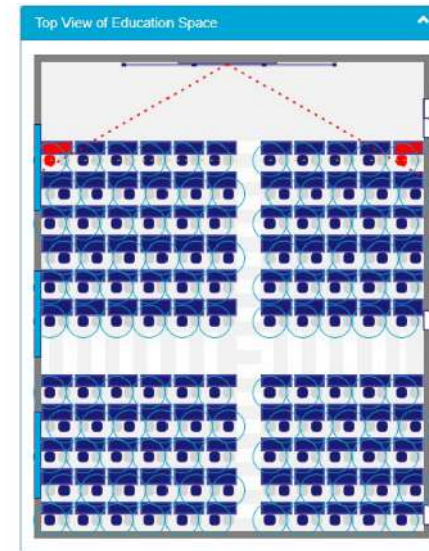


The screenshot shows the TU Delft Education Space Configurator interface. At the top, it displays the TU Delft logo, the application name, and user information: "Welcome Piet van der Zanden, Delft University of Technology (manager), Your license is valid till January 2021, ©2019 TU Delft". The main area is divided into several sections: "Space Configuration: Tiered Lecture Hall", "Front View" showing a 210° screen and boards, "Side View" showing a 28.9° screen angle and 32.5° row angle, "Top View of Education Space" showing a grid of seats, and a "Furniture" control panel with sliders for "No of rows" (15), "Table depth" (40cm / 15.7"), "Chair Depth" (60cm / 23.6"), "Chair Width" (60cm / 23.6"), "Chair Centre-to-Centre" (65cm / 25.6"), and "Row Passage" (5cm / 2.0"). Other controls include "Readability, Sightlines", "Seat capacity 300", "LEDs", "Smartboard 1: 7.7' 4.8'", "2 Chalk Boards", "Aisles", "Desk", "3 Doors", and "3 Windows". The email "info@tudesc.com" is visible at the bottom.

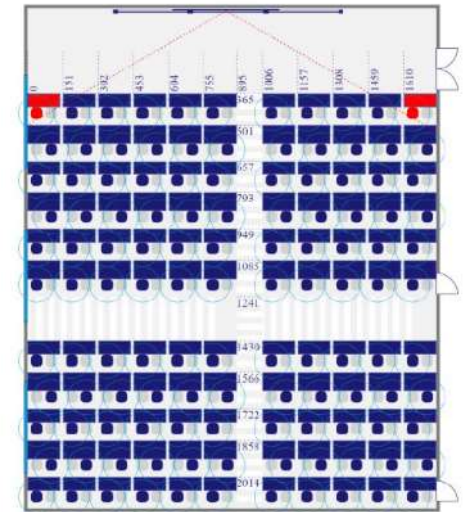
Social Distance with normally generated Seat Capacity (56)



Social Distance with optimized Seat Capacity (121)



Printed detailed Floorplan for facility instructions



Q & A



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