

Choosing the right AV technology

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Not so long ago ...

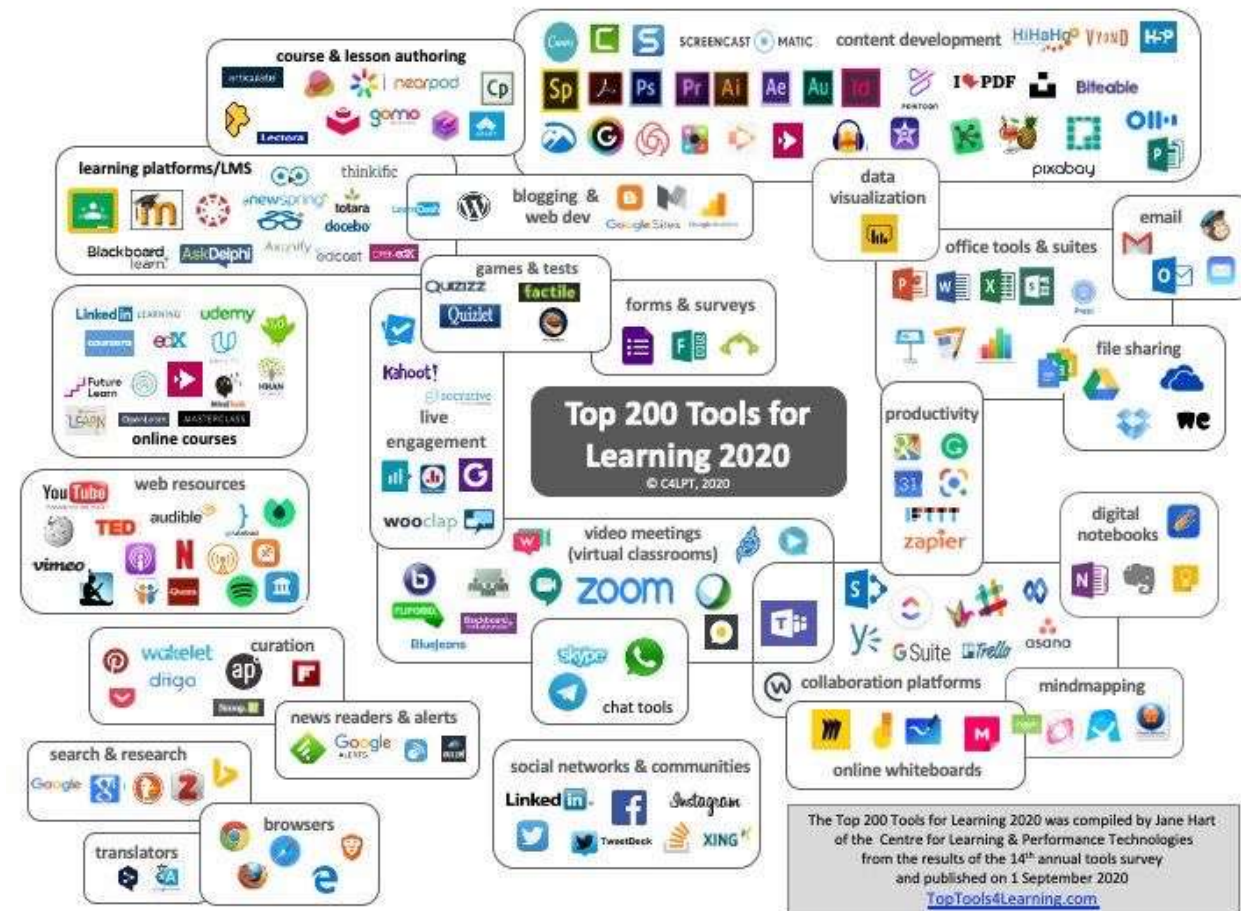


Moving into this ...

Changes in teaching

Rapidly shifted to online tools

- Lockdowns in most European countries
- Not able to put large groups in the same room
- Relatively easy to start
 - Buy a license
 - Standard pc hardware works
 - Variety of software solutions available
- Good to overcome the first Covid wave

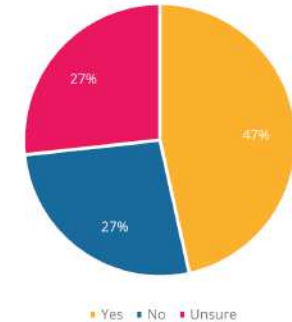


Changes in teaching

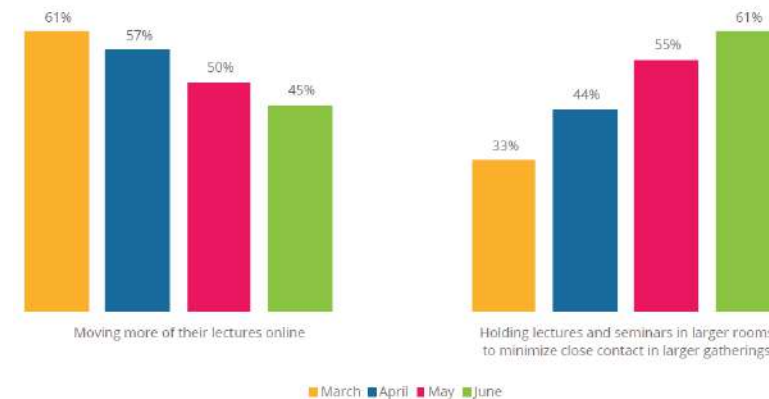
After the first wave

- Distance learning by just online tools proven not to be the right way
- Students want to go back to campus
- Schools and universities aim to get as many students as possible back to the live school environment but keep priority on health and safety of all staff, students, visitors & wider community.
- On-campus local rules on social distancing depending on level or color code:
 - WHO recommends 1m distance
 - Many countries apply 1.5m or even 2m
 - Challenge in room layout
 - Challenge in keeping right quality of teaching (readability) for all students
 - Challenge in providing same quality for students following online

If starting your studies this academic year meant doing the beginning of your course online, would you be interested in this?



Which of the following do you think universities should be doing to limit the impact of the coronavirus?

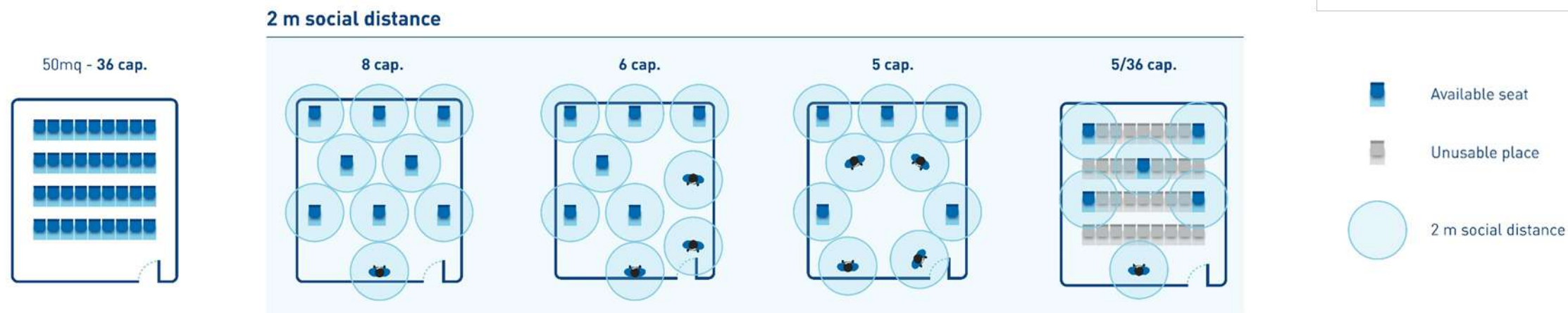


Lectures in a 'bigger' room - Seminar room



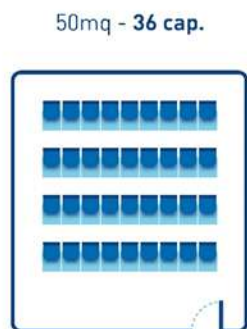
Scenario 1 - Seminar room

- The following graphic displays a 50m² seminar room and how 2m and 1m social distancing guidelines would impact on the capacity of this space.
- When 2m social distancing guidelines are applied we estimate that this space can accommodate 4-8 students + 1 staff member depending on whether there is a need for a corridor within the room. This indicates a requirement for between 6.3m² and 12.5m² per capacity.

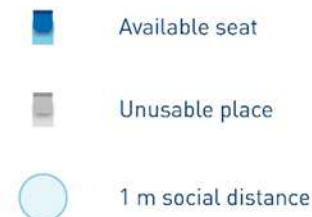
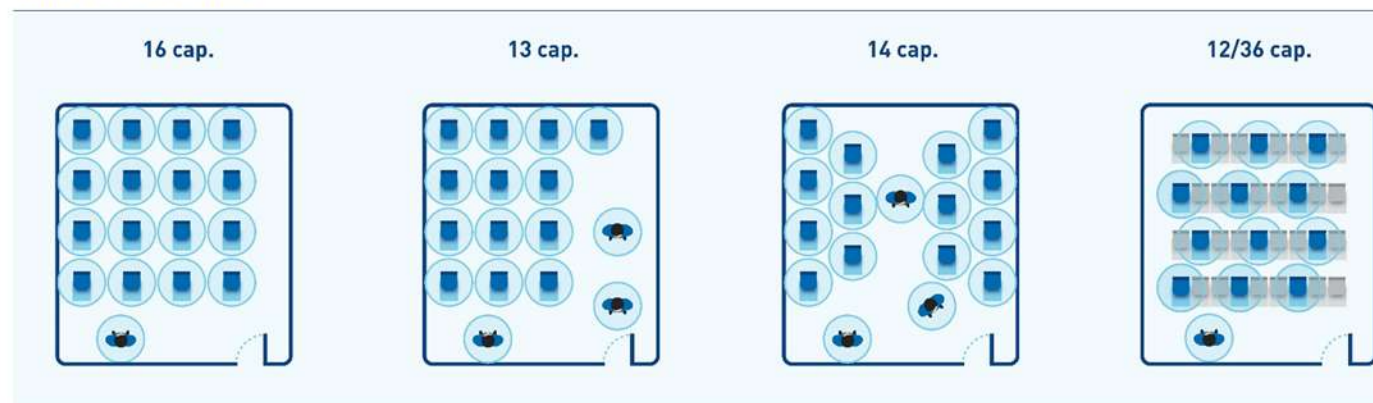


Scenario 1 - Seminar room

- 1m social distancing guidelines result in the capacity of this seminar space doubling, with 11-18 students + 1 staff member now able to occupy this space. There would therefore now only be a requirement for between 2.78m² and 4.55m² per capacity.
- In both examples highest capacity is achieved with lecturer standing static at a lectern in front
- Allowing the lecturer to move around safely, would most likely result in the front row of seats needing to be removed (or not used) resulting in a significant capacity reduction.
- Comparison includes different requirements (lecturer movement and circulation space for students), helps to highlight how all factors must be considered when planning the future workplace designs for each teaching space.

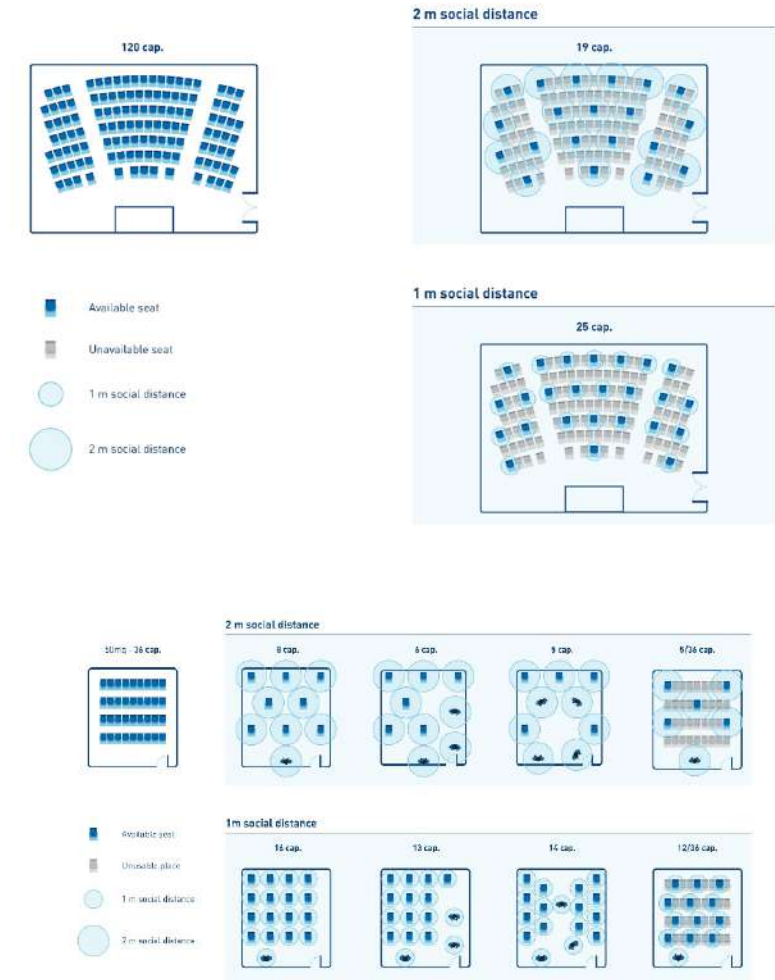


1m social distance



More basic room scenarios available

- Lecture theatre
- Computer room
- ... and more
- Mostly based on furniture placement
- How does AV technology affect this placement?
- Panasonic created AV tips & guidelines for each scenario
- Easy start into good & futureproof blended learning system



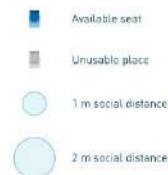
Holding lectures in bigger rooms

What to consider for AV technology

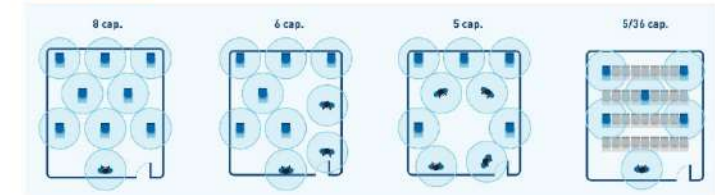
- Keep information readable for everyone
- Avoid 'cheap' seats, also online
- AV standards can help to maintain the quality level
- Small changes can make a big difference
 - Change resolution = change in viewing distance
- How connected is the system?
 - On-campus only
 - Film content by camera (lecture capture)
 - Stream directly online
- Many scenarios possible



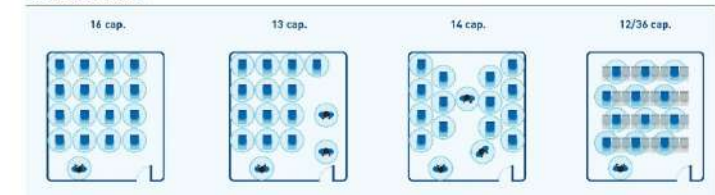
12-13 There are many types, sizes, and complexity levels of audiovisual systems. The user should apply this standard as appropriate to fit the particular project circumstances. Two common approaches are described here, although there are many possible variations in contractual agreements and relationships between the design and construction team. For example: Consultant-led projects when the monetary value of the audiovisual systems is high, the building design and construction timeframe is long, or the installation work must be competitively bid. Independent consultants are persons or firms having neither financial interest in the products specified nor obligations or partnerships with equipment integrators, contractors, manufacturers, and their representatives. Design-build projects (also known as turnkey projects) when the construction timeframe is accelerated, the installation systems are proprietary, and/or the project does not require competitive bidding. Professional AV integrator firms are in the business of selling, engineering, installing and providing ongoing service and support for a wide variety of audiovisual and related technologies, systems, and equipment. Equipment manufacturers may also provide turnkey systems design, installation, and service. In addition, owners may choose to have audiovisual systems designed and/or built by their in-house staff. InfoComm International® is the leading non-profit association serving the professional AV communications industry worldwide. Founded in 1939, the association has 5,000 members, including manufacturers, systems integrators, dealers and distributors, independent consultants, programmers, rental and staging companies, end users, and multimedia professionals from more than 80 countries. InfoComm offers industry expertise and market research serving press and others seeking information about the industry. Through activities that include tradeshow, education, certification, government relations, outreach, and information services, InfoComm promotes the industry and enhances members' ability to conduct business successfully and competently. InfoComm International is the ANSI Accredited Standards Developer (ASD) dedicated to the dissemination of the knowledge of audiovisual systems performance parameters. About ANSI The American National Standards Institute, Inc. (ANSI) is the national coordinator of voluntary standards development and the clearinghouse in the United States for information on national



2 m social distance



1m social distance



Holding lectures in bigger rooms

Visual points to consider before starting



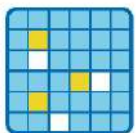
Content & Knowledge

Understanding the user needs and content is key



Size

Is the screen big enough?



Resolution

WUXGA, HD, 4K, resolution makes a difference



Contrast

Defining factor on how image quality is perceived



Brightness

How bright is the room? Screen brightness?



Viewing distance

What's the max & min distance possible?



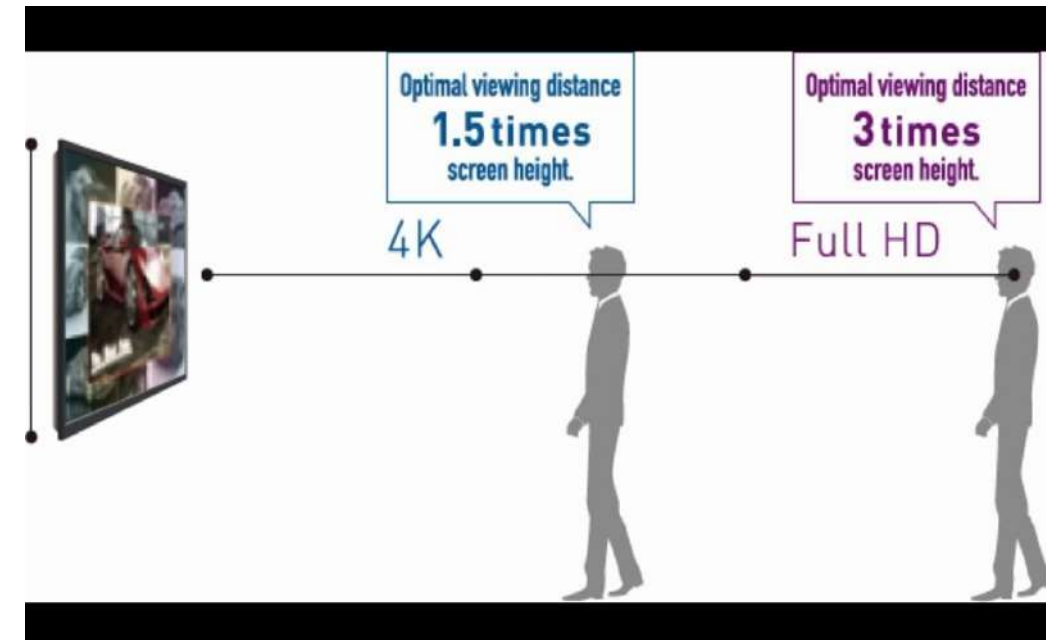
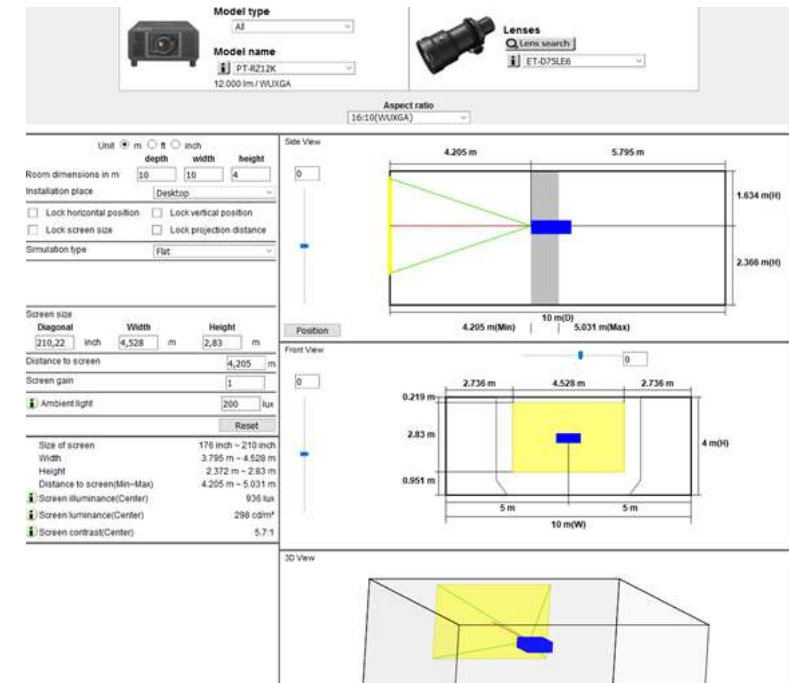
Viewing angle

Improving the ability to concentrate

Holding lectures in bigger rooms

Panasonic expertise

- Is it big enough? Is it bright enough?
 - Detailed calculator
 - Based on actual room conditions
- Can I fit more people in my room?
 - Benefit of higher resolution:
 - 4K can bring people closer to the screen while keeping the same viewing detail
 - Can keep same viewing angle for every one
 - Benefit of exchangeable lenses:
 - Bring people closer to the screen
 - Open up space



Holding lectures in bigger rooms

Panasonic expertise

- AV Standards:

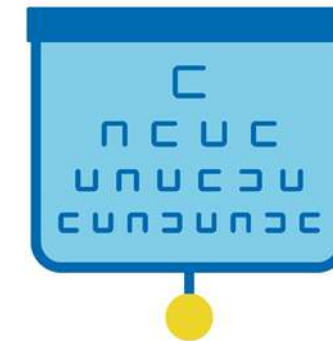
Discas:

Display Image Size for 2D Content in Audiovisual Systems
Used to determine correct image size, resolution, viewing distances (far & close), viewing angle; also gives guidance on content (font) size.

ISCR:

Image System Contrast Ratio (formerly PISCR)
The standard to use to ensure good image quality. Initially just for projection, the Projected Image System Contrast Ratio has morphed into a single standard that covers all displays types and technologies.

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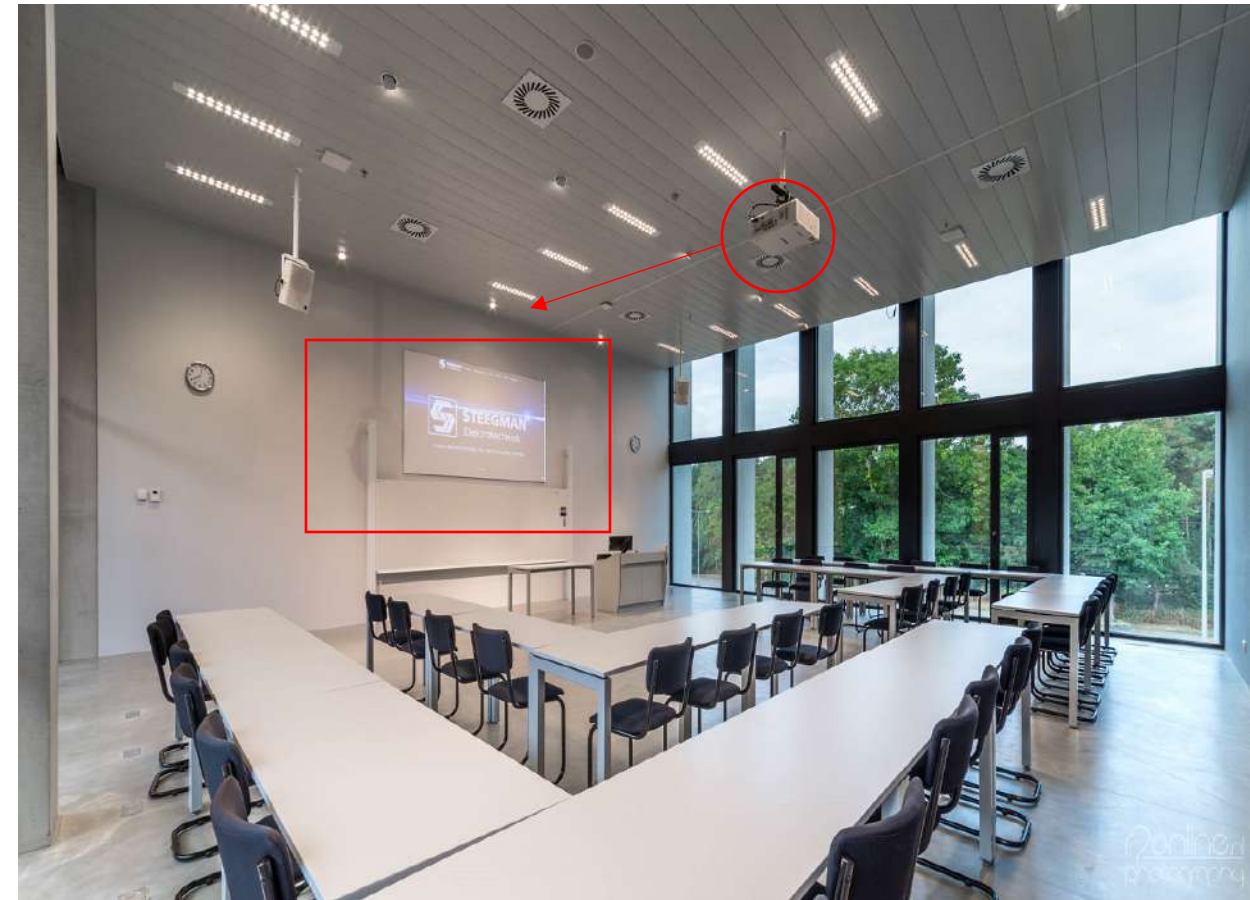
Adding AV into the simulation

- 4K resolution impact:
 - 4K has a lower recommended viewing distance vs full HD
 - 4K 1 – 1.5 time the screen size recommended
 - Full HD 1080p 1.5 – 2.5 times

Allows to bring people closer to the screen without losing viewing comfort

Allows better use of room size to fit max. people with social distance in mind

- Impact from different lens: Short throw
- Add camera for lecture capture: 1 touch
 - More detail on screen to be captured
 - Lecture capture system with auto tracking



Panasonic advantages

Visual technology

- **We supply professional FPD and PJ**
 - From 43" to 600" (FPD from 32" to 98" / Projector: 5.000lm up to 50.000lm)
 - The right contrast, resolution and color for every room condition.
 - Projector offering better ROI than LED wall in big theaters
 - More people in same room = more people close to screen
 - 4K resolution importance + correct lens use
 - Same view conditions for all (close or far from screen)
- **We work and analyze based on industry standards on screen sizes**
 - Member Avixa trade organization
 - Our trainings are built on the same Avixa standards
- **We can complete a full blended learning setup**
 - Not only on campus solutions – Online and Offline
 - Camera and switcher products for streaming or lecture capture





Contact

- For all Panasonic related questions
- Invitation for our full detailed webinar

E-mail: Thomas.Vertommen@eu.Panasonic.com





THANK YOU

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