RESEARCH ON COVID-19 TRANSMISSION RISK IN CINEMAS
UNIC SUMMARY – DECEMBER 2021

Successive European as well as international scientific studies have confirmed that the cinema environment – where customers are for the vast majority of their visit seated, all facing in the same direction and not talking in a highly-ventilated room - presents a very low risk of COVID-19 transmission.

A recurrent theme of many of these studies - summaries of which are set out below - is the extent to which cinemas are seen in all respects to offer a more 'COVID-safe' environment than other comparable out-of-home settings such as bars, restaurants and gyms.

This is something confirmed by the industry blog *Celluloid Junkie*, which in October 2020 conducted a study highlighting that there had at that time been no COVID-19 outbreaks anywhere in the World that could be traced to a cinema, multiplex or public screening venue:

https://celluloidjunkie.com/2020/10/19/cj-analysis-the-number-of-covid-19-outbreaks-traced-to-cinemas-is-zero/

UNIC remains unaware of any such instances.

FRANCE

Research published in December 2021 by the Institut Pasteur, looked at the circumstances of COVID-19 contaminations in France between May and August 2021. The objective was to determine the association between acute SARS-CoV-2 infection and recent activity-related exposures. The research highlighted that cultural venues such as cinemas were safe spaces that did not represent a higher risk of catching COVID-19. It identified bars, private parties, nightclubs, football games as well as various public and private transports as the main sources of infection in the country. The research also highlighted that vaccinated or recovered individuals were much less likely to catch a serious COVID-19 - this at a time when a COVID-19 certificate has been mandatory for cinema-going in France from July 2021.

The full research article can be found here:

https://www.unic-cinemas.org/fileadmin/user_upload/Publications/2021/Etude_Pasteur_Comcore_26112021.pdf

Research published in December 2020 by the Institut Pasteur highlighted that cultural events played a minimal role in the spread of the virus, with only 2.2% of positive cases suspected (and none proven) as originating from a cultural event.

See in particular the quote on page 7, penultimate paragraph of this document (in French):

https://www.pasteur.fr/fr/file/37907/download

GERMANY

Research published in December 2021 by the Fraunhofer Institute for Building Physics IBP found that regular cinema ventilation was enough to ensure that COVID-19 infection risk was minimal in a typical theatrical environment. This was also confirmed by the latest analyses from the CineCov project funded by the Federal Government Commissioner for Culture and Media (BKM).

More information about the research can be found here:

https://celluloidjunkie.com/2021/12/09/german-study-demonstrates-low-covid-19-infection-risk-in-cinemas/

It is also available on the Fraunhofer website here:

https://www.ibp.fraunhofer.de/en/press-media/press-releases/pi_2021-12_cinemas-good-ventilation-ensures-low-risk-of-infection.html

A survey conducted in Germany in October 2021 with the support of the Luca-app traced individuals infected with COVID-19. Based on feedback from over 181k warnings - sent by users who have caught COVID-19 to inform their contacts of a potential transmission location - only 1.7% identified cinemas as potential infection spot. Nightclubs (49.1%), bars (23.2%), restaurants (10.9%) and large events or festivals (7.8%) were clearly identified as high-risk locations in terms of COVID-19 transmission.

More details can be found here (in German):

https://www.zdf.de/nachrichten/panorama/corona-luca-app-clubs-bars-hotspots-100.html

Research published in February 2021 by the Technical University of Berlin on COVID-19 compared how aerosol particles containing the virus circulated in different indoor spaces and assessed nfection risk depending on the type of location. The researchers compared the reproduction number – or the so-called R value – with or without wearing a mask and taking into account different occupancy limits. The key conclusion of the research was that the R value was lower in cultural venues (such as cinemas, theatres or museums) than it was in restaurants, classrooms or offices.

A detailed summary of the research can be found here:

https://www.unic-cinemas.org/fileadmin/user_upload/Publications/2021/GCF_-_TU_Berlin_research_summary__February_2021_.pdf

A video explanation was also produced by the Global Cinema Federation, and can be found here:

https://www.youtube.com/watch?v=2U1r8TUlGYg

A study published in July 2020 by the Hermann-Rietschel Institute in Berlin confirmed the safety of cinema auditoriums compared to other environments such as offices, with respect to aerosol transmission, while at the same time supporting calls by German colleagues at the time for a further reduction in the then "1.5m plus" social distancing requirement.

The full study is available here (in German):

https://documentcloud.adobe.com/link/review?uri=urn%3Aaaid%3Ascds%3AUS%3A2cc1e637-48a3-4bf4-95e0-daf3c18d0ffe#pageNum=1

An article was also published in Deadline magazine summarising key findings here:

https://deadline.com/2020/07/germanys-largest-cinema-organization-calls-for-less-distancing-in-cinemas-only-then-will-cinemas-survive-1202994178/

A study published in November 2020 by the Fraunhofer Heinrich Hertz Institute and the technology company ParteQ, in collaboration with the Federal Environment Agency, investigated the dispersion of aerosols and CO2 in a concert hall (a comparable environment to a cinema auditorium in most respects). The study, which also looked at the efficacy of face covering and the possibility of 100% occupancy, concludes that "aerosol transmission can be virtually ruled out if sufficient fresh air is supplied via a ventilation system and visitors wear mouth-nose protection during the performance."

A summary is available here:

https://www.hhi.fraunhofer.de/fileadmin/News/2020/Aerosol-Studie/201222_Studie_Zusammenfassung_KHD.pdf

The original research (in German) can be found here:

https://newsletter.konzerthaus-dortmund.de/Pressemails/2020-21/Pressemitteilung/2021.01.11_Zusammenfassung_Aerosol-CO2-Messungen_Konzerthaus-Dortmund.pdf?utm_source=newsletter&utm_medium=email&utm_content=

A short video with key findings is available here:

https://www.youtube.com/watch?v=vPdhutvumZI

INTERNATIONAL STUDIES

A study published in December 2020 in Environment International - a peer-reviewed scientific journal covering environmental science and health - compared the risk of airborne transmission of COVID-19 in a variety of different indoor settings and concluded that the performed activities made a significant difference in terms of transmission - with cinemas representing a lower risk than other activities, as cinema-goers remain seated, breathing normally and facing the same direction without interacting with each other.

The study, conducted in Italy and Australia, is available here:

https://www.sciencedirect.com/science/article/pii/S0160412020320675?via=ihub

A simple representation of the key findings, presented by the cinema chain Cinepolis, can be found here:

https://documentcloud.adobe.com/link/track?uri=urn:aaid:scds:US:c8fde816-932c-4879-9da9-46ef8978fe01#pageNum=1

A study published in November 2020 in Environment International compared the risk represented by aerosol transmissions depending on the activity and space. The study, conducted in China, US and Australia, highlighted that spaces where there was little movements – such as cinemas – were seen as low-medium risk environments, where clear precautionary measures could be taken to significantly reduce infection risks.

The study is available here:

https://www.sciencedirect.com/science/article/pii/S0160412020319942

A study published in July 2020 by the Infectious Disease Centre at Aicha University, Japan, looked specifically at the impact of ventilation capacity on the removal of air from a cinema theatre. The study demonstrated that smoke could be removed from an auditorium within 20 minutes through the ventilation system underneath the screen, illustrating the efficiency of air ventilation in a cinema.

A video summary (in Japanese) can be seen here:

https://www.youtube.com/watch?v=yAIoeIOAdKM

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