

**EBU**

OPERATING EUROVISION AND EURORADIO

Oslo, 18-20 November 2019
Hosted by NRK

HDR LIVE PRODUCTION WORKSHOP

PROGRAMME

MONDAY 18 NOVEMBER 2019 FUNDAMENTALS

12:00 - 14:00	<i>Informal lunch</i>	<i>(optional for early arrivals, provided by NRK)</i>
14:00 - 18:00 (with coffee breaks, provided by NRK)	SDR Video basics A recap of how we work now Colorimetry, video formats, UHD, ...	This day starts with a theoretical part, after which the participants are invited to look at the different aspects hands-on.
	HDR video basics Why HDR? HDR vs SDR benefits The main technologies explained: HLG, PQ, Slog3	In coordination with the participants we will endeavor to have in the studio the type of equipment (e.g. camera brand/model) you are (expected) to work with.
	Format and colour space conversions Scene light vs. display light Camera colour matching	Several types of converters of different complexity will be available to try-out conversions between: HDR <> HDR (PQ, Slog3, HLG), HDR <> SDR, BT.709 <> BT.2020

TUESDAY 19 NOVEMBER 2019 WORKFLOWS

09:00 - 18:00 (with lunch and coffee breaks, provided by NRK)	Parallel HDR & SDR production What are the options? Benefits and drawbacks of the different approaches	This session draws on the in-depth experience BBC R&D has gained in the past years with HDR + SDR productions for events such as the FIFA World Cup, Wimbledon, Royal Wedding and European Athletics Championships.
	Practical experiences from real-world productions The workflows behind high-profile live events What went well/could be improved? How do you obtain high quality efficiently for your next live production?	Different workflows will be recreated in the studio, so participants can experience directly what the effects of the different design choices are.

WEDNESDAY 20 NOVEMBER 2019 RECORDING & PLAYBACK

09:00 - 15:00 (with lunch and coffee breaks, provided by NRK)	Recording formats Video compression File formats (Signalling) metadata	The way HDR is stored, and signalled, what metadata is available and how HDR and compression relate to each other are topics of this day's first session.
	Replay servers Pros/cons of upconverted SDR vs. HDR Pros/cons of upconverted 1080p vs. 2160p Pros/cons of 8-bit vs. 10-bit formats	In the hands-on part focus will be on to the use of (legacy) replay servers and the trade-offs between storage capacity/equipment replacement and final image quality.
15:00 - 16:00	Event recap & goodbye	

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Background

This event is meant to help EBU Members optimize image quality when producing live in HDR and (parallel production) or when faced with other scenarios where HDR <> SDR conversions are required.

The workshop is organized based on the experiences gained with real-world productions, especially from the team at BBC R&D. Goal is to come to a practical understanding of what works and what does not work in live production by exchanging experiences.

This event is for EBU Members staff only and is targeted at:

- Vision engineers / shaders
- OB van supervisors
- Technical trainers
- Technical planners (responsible for equipment selection)
- Master Control Room (MCR) staff
- Central Technical Area (CTA) staff

No specific prior knowledge is required.

Location & timing

Start: Monday 18 November 2019 @ 14:00 hrs
End: Wednesday 20 November 2019 @ 16:00 hrs
Location: NRK
Bjørnstjerne Bjørnsons plass 1
0340 Oslo
<https://goo.gl/maps/hKQd3KBAfoMzV5pd8>

Registration

There is NO participation fee for this workshop; it is free.
To register, simply send an e-mail to: hdr@ebu.ch with:

- Your name & function
- Company
- Camera brand/model used
- Any specific HDR questions/interests

Places are limited. We apply a 'first come – first served' principle.

We use this information to optimize the programme and equipment available on-site, so we can maximize your learning experience. You will receive a participation confirmation from us.

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Travel tips

For travel from Oslo Airport (OSL) into the city center the airport train [Flytoget](#) is recommended. It departs every 10 minutes and takes app. 20 minutes to Oslo Central station. It's a bit more expensive than the regular train service, but is easier to find, faster and more straightforward to use.

For direct travel to NRK you can save a couple of minutes and a couple of kroners by taking the Flytoget to the next station after the Central station called *Nationaltheateret*. From there, take a taxi to NRK, Bjørnstjerne Bjørnsons plass 1.

Tickets for the Flytoget are bought in ticket machines at OSL (and the stations), or in their app.

Hotels

Some suggestions from Oslo locals:

Hotel Gyldenløve – medium price

<https://www.thonhotels.com/our-hotels/norway/oslo/thon-hotel-gyldenloeve/>

1,4 kilometers away from NRK

Cochs Pensjonat - budget priced

http://www.cochspensjonat.no/?page_id=71

1,9 kilometers away from NRK

Smarthotel Oslo - budget priced

<https://smarthotel.no/en/oslo>

2,3 kilometers away from NRK

Saga Hotels Oslo - budget priced

<https://sagahoteloslo.com/saga-hotel/>