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HOME OF
THE HOLY SHIT
ON STAGE
IN LONDON

MISSION: ROYAL STAGE. NAILED IT!

A perfect truss construction for one of the world's most prestigious stages:
the Royal Ballet & Opera House London - strong, flexible, show-ready.



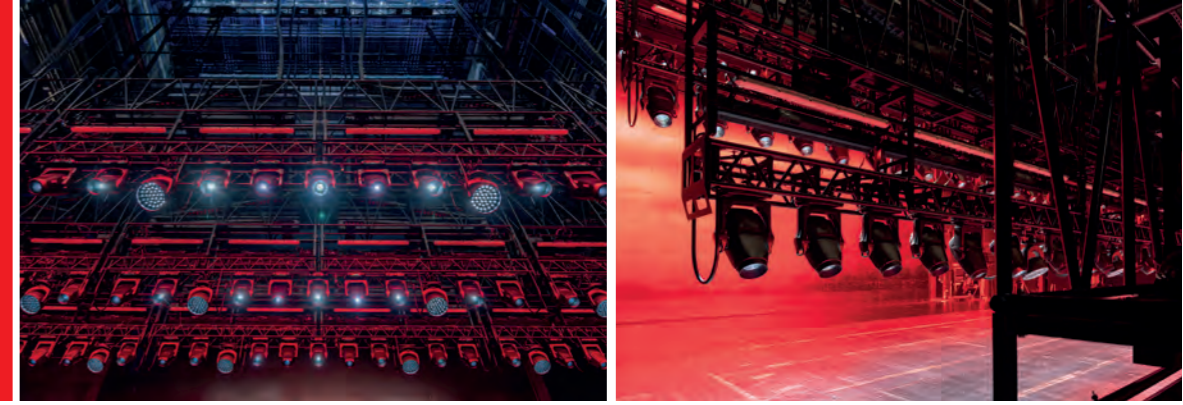
**ROYAL
BALLET &
OPERA**

   @hofalutec

[www.h-of.de/en/references/
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FIVE GIGANTIC BATTENS

**HOLY SHIT:
ROYAL
EDITION.**



HOF delivers. Complete. Precise. Future-driven.

As one of the world's most renowned opera houses, the **Royal Ballet & Opera House London** faced major technical challenges - and **HOF delivered**. The **growing load requirements** of modern stage and lighting technology and the **dead weight of the old steel truss construction** would have **simply overwhelmed** the existing point hoists, each of which can bear a **load of 420 kg - too little for today's productions**. At the same time, the available space above the stage was restricted by structural conditions. Under these circumstances,

one thing was clear: a **complete redesign of the truss system** for all five battens was needed. HOF developed a **customised, modular solution** that delivers maximum stability with minimal weight - precisely engineered, quickly installed and ready for any production. **All five battens were completely renewed**. Each newly developed batten measures **21 metres in length** and is divided into **three independently movable units** - providing maximum flexibility and efficiency in daily stage operations.



When construction becomes performance, HOF shows its strongest side: **Planned, engineered and realised entirely in-house** - every detail precisely tailored to the requirements of the **Royal Ballet & Opera House London**.

The project relied on a sophisticated system of proven HOF components: modified versions of the **HOF MLT FOUR PRE RIG TRUSS**, the **HOF MLT THREE PRE RIG TRUSS**, and the **HOFFORK 350-5**.

At the heart of the construction is the **Mother Truss** - a modified **MLT FOUR**, installed „upside down“. This open-top design allows it to accommodate around **70% of the height of the energy chain storage units**.

The system is completed by the

Bottom Truss, a combination of modified **MLT THREE** and **HOF-FORK 350-5** trusses. It is connected to the Mother Truss via a specially developed **aluminium connection**, fulfilling several functions at once:

It carries **boundary and working lights** and serves as a **gangway for technical staff**. Also, the suspended trusses can be removed and **placed on up to 50 MLT dollies** - without the need to dismantle the overall structure or to overload the dollies.

Each of the five newly developed **battens** measures impressive **21 metres in length** and is divided into **three independently movable units**. Thanks to the **aluminium construction**, the overall weight of the structure was **reduced by around**

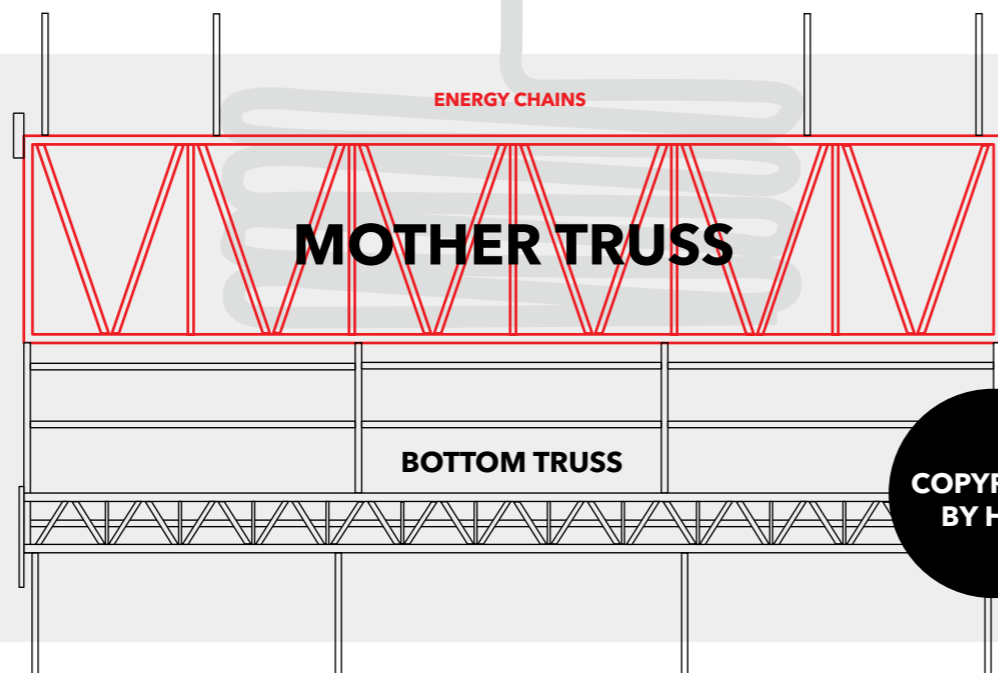
one third (!) - from **7.9 tons to 5.3 tons**. At the same time, the height of the truss construction was reduced from **4.7 metres to 4 metres**. The entire construction can be moved vertically over 25 metres in height. **Around 9 tons of energy chains** were used, with a **total length of over one kilometre**. The **Mother Truss** not only carries the dead weight of the energy chains, but also **additional payloads of up to 15 tons**. Specially developed **deflectors** prevent the closely spaced trusses from touching or snagging during travel. The entire system is finished with the **HOF Heavy-Duty Coating**, ensuring maximum durability - **Royal approved**.

SETUP FOR THE ROYAL BALLET & OPERA HOUSE:

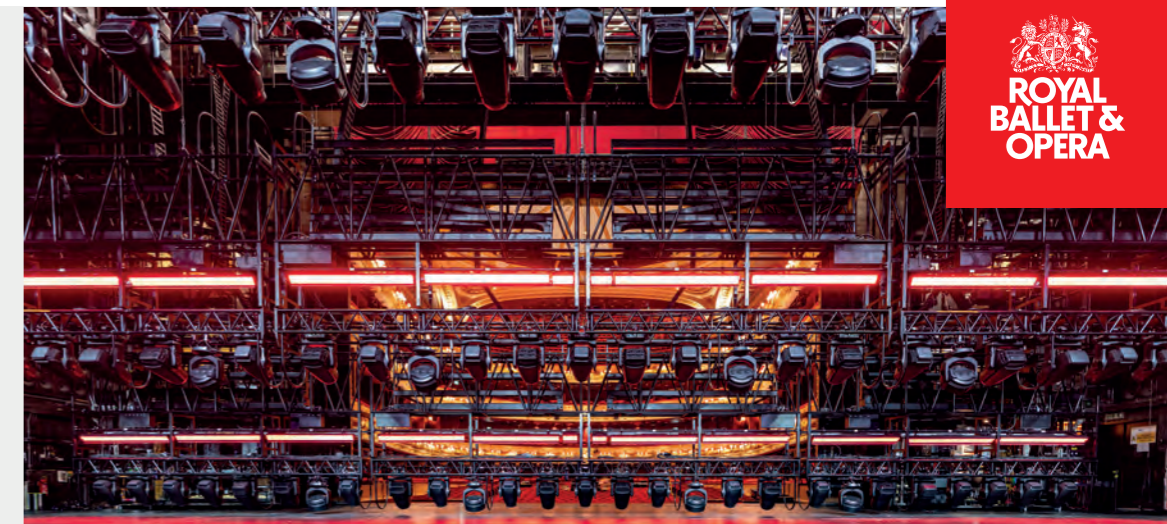


LIGHTWEIGHT CONSTRUCTION HIGHLY FLEXIBLE QUICK MODIFICATIONS

- MOTHER TRUSS**
- **HOF MLT FOUR PRE RIG TRUSS (MODIFIED)**
- BOTTOM TRUSS**
- **HOF MLT THREE PRE RIG TRUSS + HOFFORK 350-5 (MODIFIED)**



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ENGINEERED IN GERMANY.

HOF



ROYAL BALLET & OPERA

OPERA(TION): COMPLETE!



With this project, HOF demonstrates what is possible when **engineering, expertise and passion** come together: From the initial idea to the finished structure - **all in-house, all HOF. Holy Shit!** For HOF, the **Royal Ballet & Opera House London** is more than just a project. It is a **statement** - and a **glimpse into the future of truss engineering**. In **record time**, a customised construction for the Royal Stage was created in Mettingen. Only **16 weeks** passed from order placement to installation - including **development, production and assembly**. This was made possible by the high level of **vertical integration** at the HOF

site in Mettingen, precise planning and **close collaboration** between the Royal Ballet & Opera House team and HOF. After just **one month**, the first **prototypes** were ready: **tested, inspected and further customized** together with the London team. An important part of the **pre-assembly**, involving the integration of the **energy chains into the Mother Truss**, was carried out at the RBO site in Aberdare in July. These **comprehensive preparations paid off**, with the on-site installation at the RBO in Covent Garden being completed **in just two weeks**.

**ROYAL TIMING
BY HOF.**

PLANNING | STATICS | DESIGN | MANUFACTURING



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THE FUTURE OF TRUSS ENGINEERING.

SETUP FOR THE ROYAL BALLET & OPERA HOUSE:

- _ HOF MLT FOUR PRE RIG TRUSS (MODIFIED)
- _ HOF MLT THREE PRE RIG TRUSS + HOFFORK 350-5 (MODIFIED)



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Film on - watch now >



HOLY SHIT! READY FOR TAKE OFF?

— **Lightweight special truss construction:** aluminum instead of steel. Overall weight reduced by around **one third (!)**

— **Mother Truss "upside down":** is open at the top to accommodate the energy chains. Carries up to **15 tons of payload.**

— **Bottom Truss: modular and removable:** allows fast modifications on or off stage.

— **Reduced construction height:** lowered from 4.7 metres to 4.0 metres.

— **Maximum flexibility and performance:** optimized for fast scene changes and top-level stage performance.

— **In-house expertise:** planning, engineering, production: **all from one source.**

— **Royal timing:** Developed with HOF in **Mettingen**, pre-assembled in **Aberdare**, and installed in **Covent Garden** in just **16 weeks.**