

## Abstract:

## Device and method for (extreme-high-speed) laser cladding

5 The present invention relates to a device for laser cladding, in particular for extreme-high-speed- laser cladding (EHLA), comprising:

- at least three drive columns (2);
- a workpiece support (1) for a product to be manufactured, the support being positioned centrally between the drive columns (2.1, 2.2, 2.3), and/or a support  
10 plate (20) for a welding head (22), which
  - is movably connected to the drive columns (2.1, 2.2, 2.3) in three spatial directions (x, y, z) via multiple tension-compression struts (15) and revolute joints (3, 4) that are fixed on the ends thereof, wherein
  - each drive column (2.1, 2.2, 2.3) has at least one inner guide rail (5)  
15 facing the workpiece support (1) and/or the support plate (20) with an inner carriage (6) running in said rail for moving the workpiece support (1) and/or the support plate (20) in the three spatial directions (x, y, z) and has an outer guide rail (8) with an outer carriage (11) running therein for guiding a counterweight (9) vertically in the opposite direction to the inner carriage (6); and
- 20 - a welding head (22).

The invention further comprises a method for carrying out extreme-high-speed laser cladding (EHLA).

FIGURE 1