Claims:

1. A device for laser cladding, comprising:
   - at least three drive columns (2),
   - a workpiece support (1) for a product to be manufactured, which is positioned centrally between the drive columns (2.1, 2.2, 2.3), 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, characterized in, that
      - each drive column (2.1, 2.2, 2.3) has at least one inner guide rail (5) facing the workpiece support (1) with an inner carriage (6) running in said rail for moving the workpiece support (1) 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), wherein the device comprises
   a welding head (22), wherein the welding head (22) is held by a support plate (20) between the drive columns (2),
   characterized in that the support plate (20) is designed to be immovable and the workpiece support (1) is axially movable in the three x, y, z spatial directions.

2. The device according to claim 1, characterized in that the workpiece support (1) is suspended at six points via in each case two parallel tension-compression struts (15) of equal length, in each case two tension-compression struts (15) being connected to in each case one inner carriage (6) of a drive column (2).

3. The device according to claim 1 or 2, characterized in that the guidance of the carriages (6, 11) takes place via idlers (13, 14) for drive belts (12) provided on the drive columns (2).

4. The device according to any one of the preceding claims, characterized in that the carriages (6, 11) of the drive columns (2) comprise drive belt clampings (7, 10) for a drive belt (12).

5. The device according to any one of the preceding claims, characterized in that each individual tension-compression strut (15.1, 15.2) of a drive column (2.1, 2.2, 2.3) can be moved individually in the vertical direction within its own guide rail (5.1, 5.2) with its own independently vertically movable carriage (6.1, 6.2).

6. The device according to any one of the preceding claims, characterized in that the welding head (22) is held by the support plate (20), which is arranged parallel to the workpiece support (1) for the product to be manufactured, and that between the support plate (20) and the workpiece support (1) a wobble plate (21) is suspended, which enables an axial offset of the welding head (22).

7. The device according to claim 6, characterized in that the suspension of the support plate (20) for the welding head (22) from a top plate (16) takes place via an upper coupling socket (24) gripping the fixtures (30) from above and a coupling pin (25) gripping from below.

8. The device according to claim 6 or 7, characterized in that the wobble plate (21) is connected to the support plate (20) via suspensions (27).

9. The device according to any one of the preceding claims , characterized in that the coupling of the tension-compression struts (15), which can be moved vertically in the drive columns (2), to the workpiece support (1) is effected either from the side or on the upper side or on the underside thereof.

10. The device according to claim 1, characterized in that a rotation and pivot device (31, 33) is positioned below the support plate (20) for the welding head (22) in order to receive the product to be manufactured in the product receiving area (32).

11. The device according to any one of the preceding claims, characterized in that a nozzle is provided, namely a powder nozzle or a wire nozzle.

12. The device according to any one of the preceding claims, characterized in that the welding head is a laser welding head or a soldering head.

13. The device according to any one of the preceding claims, characterized in that an additional axially movable milling head is provided for subsequent processing of the workpiece.

14. A method for manufacturing a product by laser cladding, particularly extreme-high-speed laser cladding (EHLA), characterized in, that a workpiece support for the product to be manufactured is moved via at least three drive columns in

three spatial directions (x, y, z) along a welding head which is arranged parallel to the workpiece support for a product to be manufactured, wherein each drive column allows a path movement of the workpiece support via tension-compression struts connected thereto and a mass compensation via corresponding counterweights,
characterized in that a support plate for the welding head is arranged above the workpiece support, the support plate is held immovably and the workpiece support is moved individually in the three x, y, z spatial directions.

15. The method according to claim 14, characterized in that an oscillating operation is applied for creating curves, lines and/or cavities.

16. The method according to claim 14 or 15, characterized in that amorphous and/or crystalline material compositions are used for manufacturing the product.