CLAIMS

1. A modular laser cladding system comprising:

a plurality of deployable trolleys comprising three trolleys, each trolley comprising a rollable trolley base and a trolley enclosure in engagement with the trolley base, the trolley enclosure configured to allow the trolley to be lifted and moved by a hoisting mechanism; and

a laser cladding apparatus comprising a plurality of laser cladding components mountable in a variable configuration on the plurality of trolleys, the laser cladding components comprising a robotized cladding system, a powder feeder unit, and gas canisters,

wherein the robotized cladding system, the powder feeder unit, and the gas canisters are mounted on a first trolley of the three trolleys, and other components of the laser cladding apparatus are mounted on a second trolley and on a third trolley of the three trolleys.

2. The system of claim 1, wherein the plurality of deployable trolleys having the plurality of laser cladding components mounted thereon are deployable linearly on a set of rail tracks to perform laser cladding on at least one of the rails of the set of rail tracks.

3. The system of claim 1 or claim 2, wherein each trolley further comprises a mounting base plate attached to the trolley base, wherein the system further comprises a plurality of component base plates configured to have mounted thereon each of the plurality of laser cladding components, and wherein the component base plates are variably and detachably mountable to any one of the mounting base plates.

4. The system of any one of the preceding claims, wherein the plurality of trolleys having the plurality of laser cladding components mounted thereon are mountable on a chassis for towing to a laser cladding site.

5. The system of claim 4, wherein the system further comprises the chassis.

6. The system of claim 5, wherein the chassis comprises a well wagon.

7. The system of claim 6, wherein the well wagon comprises a launching mechanism

provided at one end of the well wagon and configured to lower the first trolley from the well wagon onto a set of rail tracks.

8. The system of claim 7, wherein the launching mechanism comprises a hoisting mechanism configured to lift and to lower the first trolley and hydraulic actuators configured to supply an extension manoeuvre and a rotary manoeuvre to the hoisting mechanism.

9. The system of claim 7, wherein the launching mechanism comprises sliding guides extending from the first end of the well wagon onto the set of rail tracks and configured to allow the first trolley to slide thereon from the well wagon onto the set of rail tracks.

10. The system of claim 5, wherein the chassis comprises a train gantry vehicle, the train gantry vehicle comprising a first platform spaced apart from a second platform by an elongate frame, wherein wheels are provided under each of the first platform and the second platform to allow rolling of the train gantry vehicle on rail tracks.

11. The system of claim 10, wherein the first trolley is provided in a laser cladding zone between the two platforms, wherein the second trolley is provided on the first platform, and wherein the third trolley is provided on the second platform.

12. The system of any one of the preceding claims, wherein the first trolley is spaced apart from the second trolley and the third trolley when the system is in use.

13. The system of any one of the preceding claims, wherein the plurality of trolleys are identical.