



US 20230230729A1

(19) **United States**(12) **Patent Application Publication**  
**CARROLO**(10) **Pub. No.: US 2023/0230729 A1**(43) **Pub. Date: Jul. 20, 2023**(54) **WIRING HARNESS ASSEMBLY CELL**(71) Applicant: **Aptiv Technologies Limited**, St.  
Michael (BB)(72) Inventor: **Nuno José Lopes CARROLO**, Lisboa  
(PT)(21) Appl. No.: **18/083,714**(22) Filed: **Dec. 19, 2022**(30) **Foreign Application Priority Data**

Jan. 14, 2022 (GB) ..... 2200468.3

**Publication Classification**(51) **Int. Cl.**

<i>H01B 13/012</i>	(2006.01)
<i>B25J 15/00</i>	(2006.01)
<i>B25J 5/02</i>	(2006.01)
<i>B25J 9/00</i>	(2006.01)
<i>B25J 9/16</i>	(2006.01)

(52) **U.S. Cl.**CPC . *H01B 13/01245* (2013.01); *H01B 13/01227*  
(2013.01); *H01B 13/01272* (2013.01); *H01B*  
*13/01281* (2013.01); *B25J 15/0019* (2013.01);  
*B25J 5/02* (2013.01); *B25J 9/0096* (2013.01);  
*B25J 9/1687* (2013.01); *B25J 9/1669*  
(2013.01)

(57)

**ABSTRACT**

A wiring harness assembly cell includes an automation zone housing a robot for performing automated assembly operations on a series of wiring harness assembly boards. A plurality of wiring harness assembly stations is located about the automation zone, each including one or more wiring harness assembly boards holding the wiring harnesses. Manual operator zones are located outside the automation zone that are associated with the wiring harness assembly stations. The wiring harness assembly stations are reconfigurable between a first configuration in which a first wiring harness assembly board faces the manual operator zone such that it is accessible to a manual operator, and a second configuration in which it faces the automation zone such that it is accessible to the robot. The robot is moved within the automation zone between a plurality of assembly locations where it accesses and operates on the respectively the plurality of wiring harness assembly stations.

