

# Honda unveils pilot production line for all-solid-state batteries in Japan

22-Nov-2024 17:10 GMT

**Amit Panday**

**S&P Global**

Supply Chain and Technology, Automotive

## Honda plans to begin pilot production of its all-solid-state batteries on the newly established demonstration assembly line in January 2025

Japanese automaker Honda Motor Co. has unveiled the pilot production line for its in-house developed all-solid-state batteries at its research and development facility in Sakura City, Tochigi Prefecture, Japan, Honda announced Nov. 21.



*Source: Getty Images/vefimov*

Honda said that the company is planning to commence battery production on this demonstration line in January 2025 and will conduct verification of mass production technologies and costs for each process, while also developing battery cell specifications. Honda said that its demonstration line will replicate processes required for mass production.

According to Honda, the pilot production of all-solid-state batteries will help it in terms of conducting technical verification to establish a mass production process on the newly established pilot assembly line. In parallel, the carmaker will determine the basic specifications of the battery cells with an aim to begin applying its all-solid-state batteries to electrified models that are scheduled for market introduction between 2025 and 2030.

The news comes as several global carmakers such as Toyota, Volkswagen, Hyundai, Stellantis and Nissan, among others, are pouring millions of dollars into the R&D of all-solid-state batteries, which are being looked upon as the next-generation battery technology that could not only provide a long driving range but also offer fast-charging capabilities, along with desired safety against thermal runaways. While some carmakers are focusing on in-house development of solid-state batteries, others have invested in upcoming battery technology startups to jointly develop a suitable solution and vertically integrate the process in their operations.

In April, Nissan unveiled the prototype production facility for its laminated all-solid-state battery cells at its research center in Kanagawa Prefecture in Japan. In October, Stellantis disclosed its plan to launch a demonstration fleet of Dodge electric vehicles powered by solid-state batteries supplied by Factorial. Hyundai is understood to be advancing its R&D in solid-state batteries to begin mass production by 2027 and Toyota is looking to introduce EVs equipped with these batteries around 2027–2028.

According to Honda, its pilot production line for all-solid-state battery cells is equipped with facilities and equipment that can enable verification of each production process, including weighing and mixing of electrode materials, coating and roll pressing of electrode assembly and the formation of cells, and assembly of the module. The company further updated that while the construction of the facility was completed in spring, the pilot assembly line is now installed with almost all the key equipment necessary for the verification process.

Honda said that its all-solid-state battery production process adopts a roll-pressing technique, based on the conventional production process for liquid lithium-ion batteries. Notably, the roll-pressing technique contributes to an increase in the density of the solid electrolyte layers, a process unique only to the production of all-solid-state batteries and makes continuous pressing possible.

Moreover, with the adoption of the roll-pressing technique, Honda aims to increase the degree of interfacial contact between the electrolyte and the electrodes and also increase overall productivity.

“By consolidating and speeding up a series of assembly processes, including the bonding of positive and negative electrodes, Honda will strive to significantly reduce the production time per cell,” the company said, adding that it is also working to reduce indirect costs of battery production, including power consumption, by implementing various measures, including the establishment of production control technology.

Honda plans to reduce the costs involved in the production of solid-state battery cells by not only adopting a highly efficient production process but by also leveraging the benefits of economies of large scale. To this end, Honda said that it plans to expand application of its all-solid-state batteries to a wide range of mobility products, including cars, motorcycles and aircraft.

Keiji Otsu, president and representative director of Honda R&D Co. Ltd., said, “The all-solid-state battery is an innovative technology that will be a game changer in this EV era. Replacing engines that have been supporting the advancements of automobiles to date, batteries will be the key factor of electrification. We believe that advancement of batteries will be a driving force in the transformation of Honda. Now, the start of operation of our demonstration production line for our all-solid-state batteries is in sight, and we can say that we have reached an important milestone for Honda and the country of Japan. We will continue taking on challenges to launch our mobility products equipped with our all-solid-state batteries as quickly as possible so that Honda can offer new value to our customers.”

## CONTACTS

### The Americas

+1 877 863 1306

### Europe, Middle East & Africa

+44 20 7176 1234

### Asia-Pacific

+852 2533 3565

[www.spglobal.com/mobility](http://www.spglobal.com/mobility)

Copyright © 2024 S&P Global Inc. All rights reserved.

These materials, including any software, data, processing technology, index data, ratings, credit-related analysis, research, model, software or other application or output described herein, or any part thereof (collectively the “Property”) constitute the proprietary and confidential information of S&P Global Inc its affiliates (each and together “S&P Global”) and/or its third party provider licensors. S&P Global on behalf of itself and its third-party licensors reserves all rights in and to the Property. These materials have been prepared solely for information purposes based upon information generally available to the public and from sources believed to be reliable.

Any copying, reproduction, reverse-engineering, modification, distribution, transmission or disclosure of the Property, in any form or by any means, is strictly prohibited without the prior written consent of S&P Global. The Property shall not be used for any unauthorized or unlawful purposes. S&P Global’s opinions, statements, estimates, projections, quotes and credit-related and other analyses are statements of opinion as of the date they are expressed and not statements of fact or recommendations to purchase, hold, or sell any securities or to make any investment decisions, and do not address the suitability of any security, and there is no obligation on S&P Global to update the foregoing or any other element of the Property. S&P Global may provide index data. Direct investment in an index is not possible. Exposure to an asset class represented by an index is available through investable instruments based on that index. The Property and its composition and content are subject to change without notice.

THE PROPERTY IS PROVIDED ON AN “AS IS” BASIS. NEITHER S&P GLOBAL NOR ANY THIRD PARTY PROVIDERS (TOGETHER, “S&P GLOBAL PARTIES”) MAKE ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE PROPERTY’S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE PROPERTY WILL OPERATE IN ANY SOFTWARE OR HARDWARE CONFIGURATION, NOR ANY WARRANTIES, EXPRESS OR IMPLIED, AS TO ITS ACCURACY, AVAILABILITY, COMPLETENESS OR TIMELINESS, OR TO THE RESULTS TO BE OBTAINED FROM THE USE OF THE PROPERTY. S&P GLOBAL PARTIES SHALL NOT IN ANY WAY BE LIABLE TO ANY RECIPIENT FOR ANY INACCURACIES, ERRORS OR OMISSIONS REGARDLESS OF THE CAUSE. Without limiting the foregoing, S&P Global Parties shall have no liability whatsoever to any recipient, whether in contract, in tort (including negligence), under warranty, under statute or otherwise, in respect of any loss or damage suffered by any recipient as a result of or in connection with the Property, or any course of action determined, by it or any third party, whether or not based on or relating to the Property. In no event shall S&P Global be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees or losses (including without limitation lost income or lost profits and opportunity costs or losses caused by negligence) in connection with any use of the Property even if advised of the possibility of such damages. The Property should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions.

The S&P Global logo is a registered trademark of S&P Global, and the trademarks of S&P Global used within this document or materials are protected by international laws. Any other names may be trademarks of their respective owners.

The inclusion of a link to an external website by S&P Global should not be understood to be an endorsement of that website or the website’s owners (or their products/services). S&P Global is not responsible for either the content or output of external websites. S&P Global keeps certain activities of its divisions separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain divisions of S&P Global may have information that is not available to other S&P Global divisions. S&P Global has established policies and procedures to maintain the confidentiality of certain nonpublic information received in connection with each analytical process. S&P Global may receive compensation for its ratings and certain analyses, normally from issuers or underwriters of securities or from obligors. S&P Global reserves the right to disseminate its opinions and analyses. S&P Global Ratings’ public ratings and analyses are made available on its sites, [www.spglobal.com/ratings](http://www.spglobal.com/ratings) (free of charge) and [www.capitaliq.com](http://www.capitaliq.com) (subscription), and may be distributed through other means, including via S&P Global publications and third party redistributors.