

## Toyota Boshoku starts production of Fuel Cell parts by applying its proprietary technologies

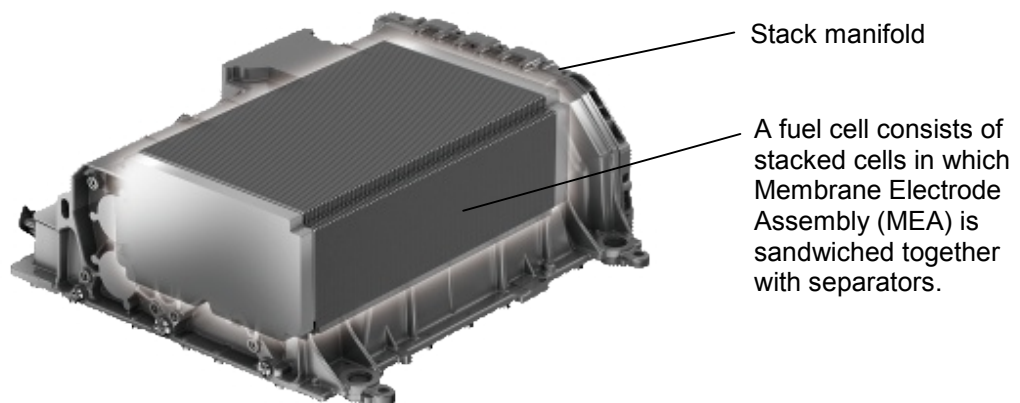
*Expanding business to manufacture key parts for next-generation vehicle using high-precision stamping technologies*

**Kariya (Japan) 19th November 2014** –Toyota Boshoku Corporation (TOKYO:3116) (President Shuhei Toyoda) has started production of fuel cell<sup>\*1</sup> parts to be used in the all-new “Mirai” hydrogen fuel cell vehicle that was unveiled by Toyota Motor Corporation in November 2014. Toyota Boshoku will expand its business to manufacture key powertrain parts for this next-generation vehicle.

Specifically, Toyota Boshoku has started production of separators, which are sheet-shaped parts made from titanium. The hydrogen microchannel configuration in fuel cells has been achieved by employing Toyota Boshoku’s proprietary precision stamping technologies, helping enhance electricity generation efficiency.

This production method was made possible by applying high-precision, high-speed stamping technologies that represent one of Toyota Boshoku’s core assets. The company’s proprietary precision die technologies are used in the integrated process from manufacture of dies to production. The precision production technologies, which were established for automotive seat frame components and then applied to the manufacture of motor core components for hybrid systems, have been further applied to the new field of fuel cells.

Toyota Boshoku has also developed stack manifold<sup>\*2</sup> that is used for the fuel cell stack. Large aluminum parts and resin parts are insert-molded to reduce thickness, helping reduce the overall size of the fuel cell stack.



A fuel cell stack in which separators and stack manifold are used  
(Image provided by Toyota Motor Corporation)

<Other parts produced by Toyota Boshoku>

Fuel cell parts: ion exchangers, etc.

Interior parts: entire interior systems including seats, door trims, ceilings, floor carpets, and silencing materials

\*1 A fuel cell refers to a device that generates electricity by using chemical reaction between hydrogen and oxygen, and consists of cells in which Membrane Electrode Assembly (MEA) is sandwiched together with separators. A stack of hundreds of cells is referred to as a fuel cell stack.

\*2 A stack manifold is a piping part that is designed to feed hydrogen, air, and coolant to fuel cell stack, and consists of aluminum and resin.