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REPORT

Automotive Technology

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Executive summary

While quite common in smartphones, PCs, and smart TVs, over-the-air (OTA) programming is still only in its infancy in the automotive market. Many consumers had already anticipated the latest upgrade to their smartphone's operating system, which typically brings a fresh user interface and new features and functionalities. Soon, these expectations will come from cars, as vehicle owners come to expect an ongoing commitment to deliver fresh and innovative software on existing vehicles. Automakers who fail to provide these enhancements might have their businesses impacted negatively, even if they continue to engineer and produce reliable and well received vehicles. This report provides perspectives on how automotive remote software updates will develop and which segments are the most important. The report provides the following key information:

- Remote Software Over-the-Air upgrades (SOTA) or Firmware Over-the-Air (FOTA) include multiple OTA segments: navigation map SOTA updates, infotainment app SOTA updates, infotainment SOTA updates, TCU SOTA updates, and core ECU FOTA updates.
- The current leading suppliers are Arynica, Redbend, and Symphony Teleca.
- There has been marked progress over the past few years when it comes to remote SOTA updates in automotive. BMW, Audi, and Tesla all have OTA map update systems, Ford has a comprehensive infotainment SOTA platform with Sync 3, Toyota, and Chrysler have app SOTA abilities, and Tesla has demonstrated and utilized infotainment, TCU and ECU FOTA file updates.
- Total worldwide SOTA royalty revenue is forecasted to grow \$5 million in 2017 to nearly \$177 million in 2022, a CAGR of 66%.
- Total worldwide OEM cost savings from SOTA update events is forecasted to grow from \$2.7 billion in 2015 to over \$35 billion in 2022. It is clear that OEM cost savings from SOTA updates will be the most valuable part of this technology—by far.
- The worldwide OTA functional software OTA update market is forecasted to grow from over \$50 million in 2015 to over \$7.1 billion in 2022. Infotainment functional upgrades are projected to be the leading segment at \$3.2 billion in 2022.
- Infotainment software updates, such as updates to the infotainment OS and UI, will grow quickly over the next half decade starting from a very low 0.21 million units in 2015, vehicles equipped with infotainment SOTA capabilities will increase to nearly 34 million enabled vehicles by 2022.
- TCU SOTA updates is the largest segment in this industry: some 4.6 million TCU OTA-enabled vehicles will be delivered in 2015, with a forecasted 14.7 million in 2022. A total of 160 million vehicles with TCU SOTA capabilities will be on the road by 2022.
- Core ECU FOTA updates are currently only conducted by Tesla. The attach rate for core ECU OTA updates is very low in 2015, at 0.04% of vehicles. Like the other OTA segments, Western Europe and US/Canada will have the highest attach rates with approximately one in five vehicles having FOTA ECU capabilities by 2022.

The next figure summarizes the total cumulative attach rate of OTA-enabled vehicles by segment. Notice that both infotainment SW OTA and TCU SW OTA dominate.