![Candera CGISTUDIO logo]

LG Electronics and Candera GmbH to present an innovative AR solution

Linz/Austria - Seoul/ South Korea, 9/November/2020 - LG Electronics Inc. is excited to announce the development of an innovative AR solution supporting various displays such as head-up display (HUD) and center information display (CID) for automotive and in-vehicle use. This modern AR solution displays situational key information like ADAS alerts, navigational hints, point of interests (POIs), or pedestrian detection directly onto the road by augmenting the real world with computer-generated visual graphics. It also supports fully customizable modeling of AR user interfaces without complicated coding to enhance the user experience (UX). This is the result of the collaboration with Candera GmbH, one of the leading HMI tool providers for automotive and industrial customers worldwide.


LG Conniro™ AR provides an intuitive user experience by augmenting the real world with computer-generated visual information.

https://www.youtube.com/watch?v=OH0_gHbbUFs&feature=youtu.be&t=25

LG's AR solution supports intuitive AR scenes to reduce driver distraction

With the growing number of vehicles on the road the need for safety and reduced driver distraction is one of the most important factors driving the integration of AR solutions for HUDs and CIDs in the automotive market. Furthermore, whilst in the past head-up displays often were an optional or standard feature for premium cars only, in the near future they will also find their way into economy and standard vehicles. OEMs worldwide are currently exploring the possibilities and use cases of this new technology.

Based on this awareness LG Electronics Inc. situated in Seoul/ South Korea has been boosting its efforts to develop a modern AR solution that works with various in-vehicle displays such as HUD and AVN/CID. Unlike traditional HUDs displaying static information AR Head-up displays go one step further by blending in key information directly onto the lane and into the driver's field of view. This of course requires the integration of a huge amount of vehicle sensor data, enabling a real-time projection of information, warnings and alerts. To implement these complex requirements LG Electronics has developed a powerful AR engine in order to be able to merge the real world with the digital content. LG AR engine is built upon the advanced sensor fusion framework that merges information observed by in-vehicle sensors in real time and predicts the future state of all interest objects around the car. This sophisticated signal processing framework ensures the stabilization of AR contents against vehicle dynamic motions and achieves reduced time delays, caused by system latency, between AR contents and the real world. LG's AR engine is well optimized in terms of computational complexity, such that it achieves high frame rate in low performance system-on-chip (SoC) environments. In addition, it is also applicable to mobile devices like Android phone by using built-in mobile sensors as input to the AR engine.
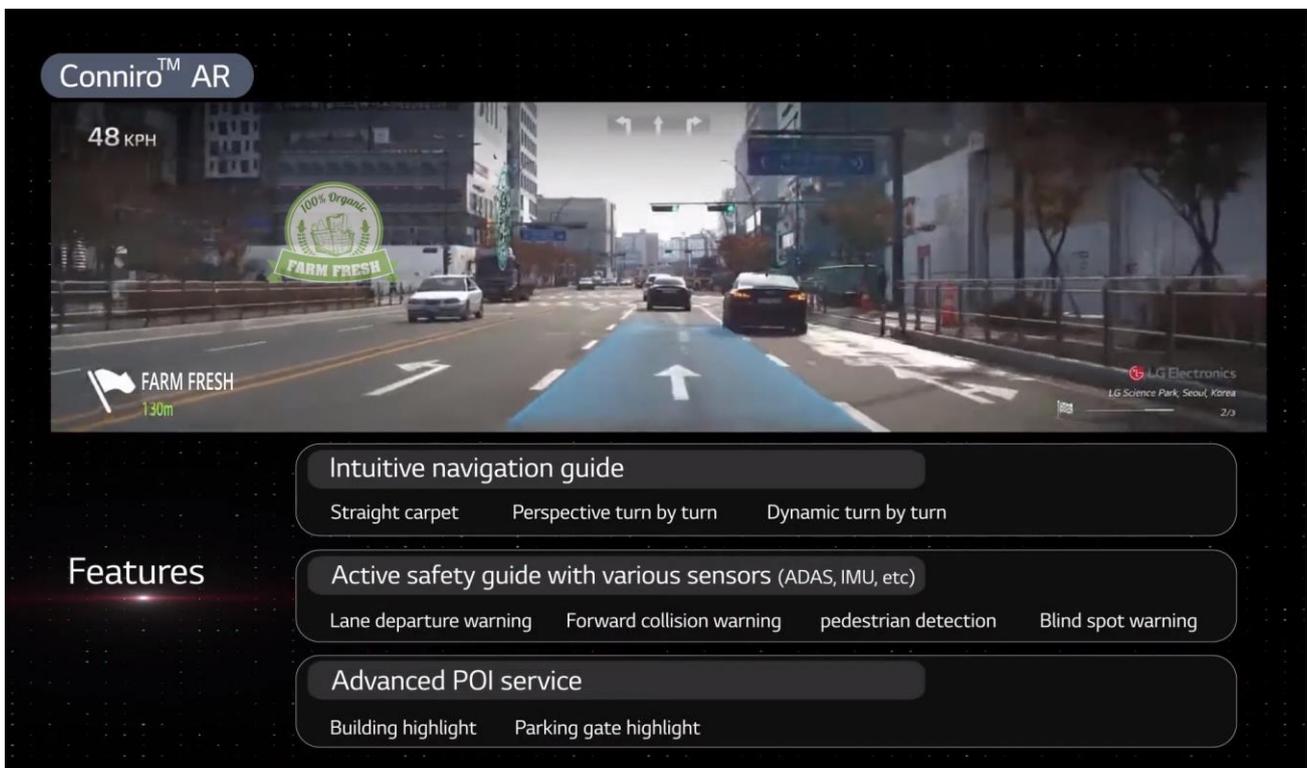

LG's AR solution features navigational hints, safety guides and an advanced POI Service

Combined with LG's enhanced visualization technologies the result was a modern AR solution supporting intuitive AR scenes like navigational hints (route carpets, directional arrows, goal pins, POI highlights), ADAS alerts (active cruise control, lane departure warning, forward collision warning, pedestrian detection), and many more. Currently, LG's AR solution is ready for the market and is in the process of mass production with a number of OEMs. *"*We believe that our technical readiness will provide better values to our customers, and mass production experience of various OEMs will further expand our business in the market" said Sukjin Chang, vice president of Smart Mobility Lab. in LG Electronics.

Candera CGI Studio makes LG's AR solution fully customizable

To make the AR solution fully customizable for different OEM UX requirements LG was looking for an experienced HMI expert and development partner. That's when Candera came into play. The Austrian HMI tool provider was enhancing the existing HUD with the powerful Candera render engine, to minimize latency and enhance clarity of the indicated information. "Especially when it comes to ADAS alerts or safety warnings, it is important that the information is displayed in real-time with zero delay" explains Roberto Hofer, technical sales manager of Candera. "Incorporating further performance and latency optimizations into our render engine, we can ensure an in-time visualization of warnings as well as a pinpoint accuracy of visualized objects even at high speeds."
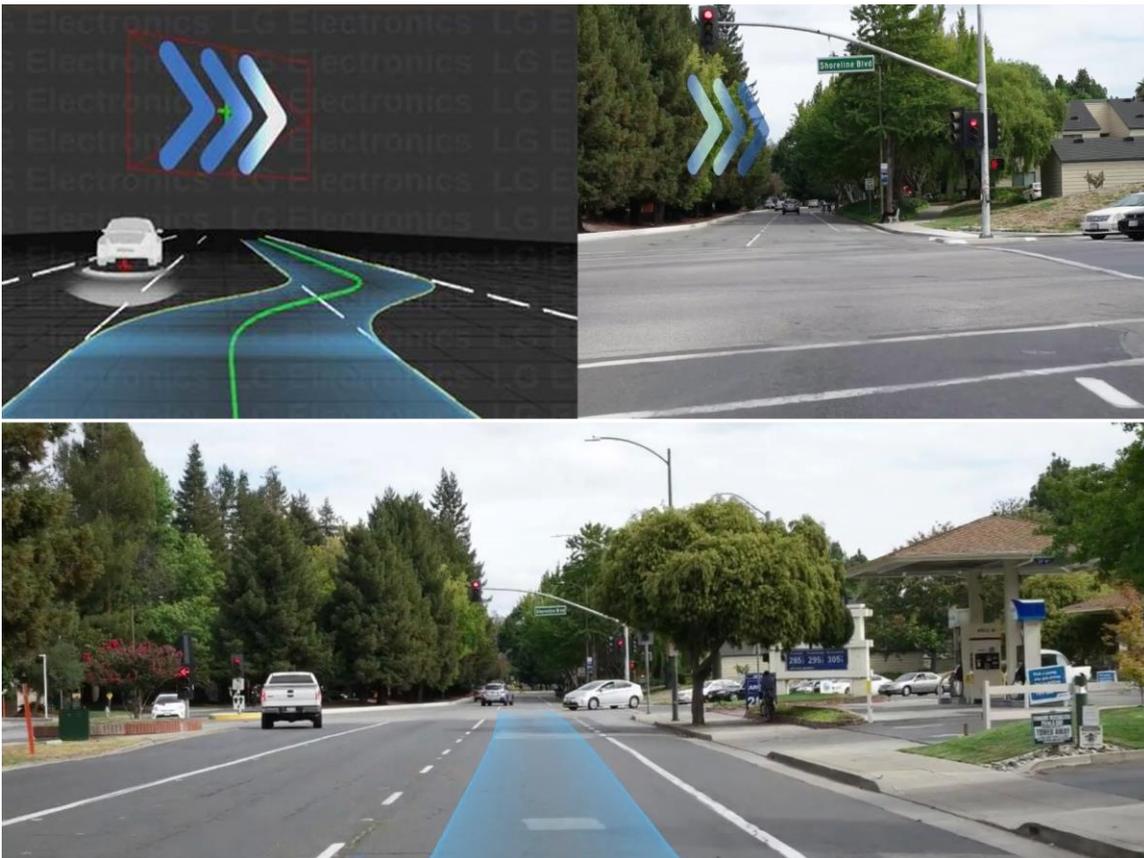
AR simulator allows convenient development with recorded or simulated traces without permanent real-track necessity

Another common OEM requirement is an easy and fully customizable HUD. This was realized with Candera's HMI design tool CGI Studio that has been developed on a user-friendly no coding approach. Indeed, CGI Studio's ready-to use controls and automated workflows will support OEMs to customize the automotive AR solution to their personals needs without programming a single line of code.

Based on our 20 years of experience in the embedded software development together with our broad customer base we have created a mature feature-rich and customizable product. In fact, CGI Studio today covers all aspects of automotive GUI development and beyond. Furthermore, we're closely working together with our customers and industry partners to provide solutions for present and future HMI needs.

Candera providing HMI solutions with 50 million units installed

https://www.artspark.co.jp/en/candera_interview/

About Candera

Candera, is a leading HMI tool provider and development partner for worldwide automotive and industrial customers.

Candera supports its customers with the CGI Studio tool environment as well as provision of software services mainly in the areas of HMI development and embedded software.

Candera GmbH in Linz/ Austria and Candera Japan Inc. in Shinjuku-ku, Tokyo / Japan are both part of the ArtSpark Group situated in Shinjuku-ku, Tokyo / Japan.

Corporate site：https://cgistudio.at/

Candera Japan site：https://www.canderajp.co.jp/

Facebook：https://www.facebook.com/canderacgistudio/

YouTube：https://www.youtube.com/channel/UCZyzdK8yFY52Ot-SvaGkM_A

Twitter：https://twitter.com/CanderaGmbh

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