



# Acquisition of Artisense

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October 4, 2021

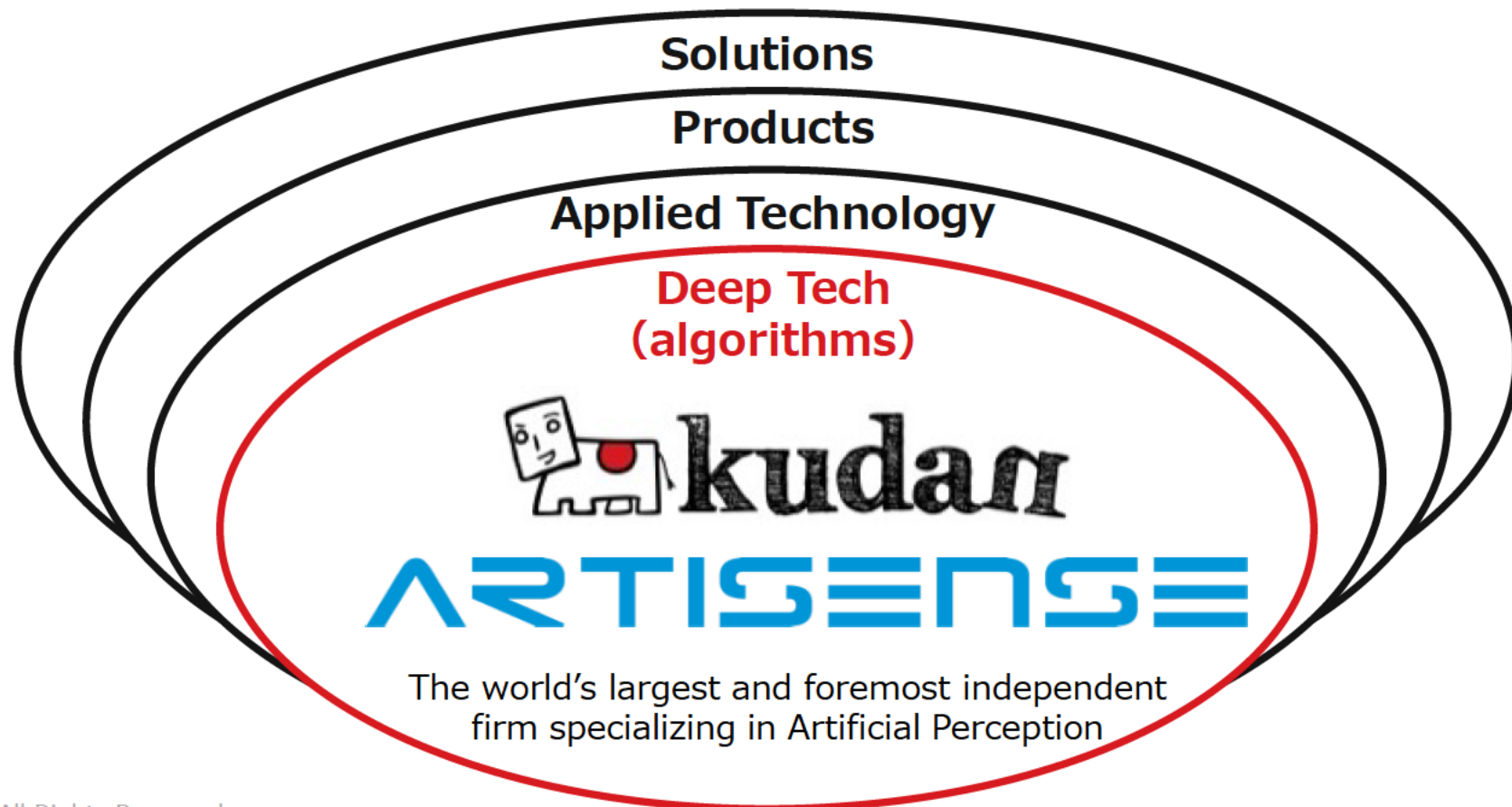
**Eyes to the all machines**

# Deepen the leadership position with the acquisition of Artisense



**Kudan acquires its group company, Artisense as a subsidiary to further strengthen its position, which is already the world's largest firm in the field of Artificial Perception and SLAM, and to increase its competitive advantage and growth potential.**

※This acquisition is provided for in the share purchase agreement disclosed in April 2021, and this disclosure is a resolution related to finalizing the schedule and payment method.

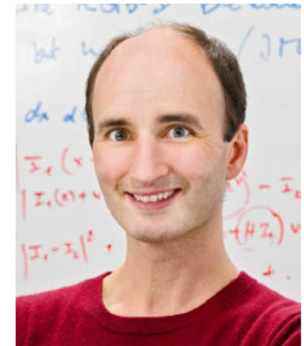


- **Kudan has acquired a world-class technical team led by Professor Daniel Cremers, the leading authority in the field, and has achieved a dominant position**

## ARTISENSE

- **Professor Cremers, a leading authority in Artificial Perception and autonomous driving research**

- Founder and Chief Scientific Officer at Artisense
- World's most referenced researcher in the fields of spatial AI and SLAM (47,000 citations of his work in academic papers, with a Google h-index, indicating contribution to the academic field, of 101)
- The head professor of Computer Vision & Artificial Intelligence at the Technical University of Munich



- **Together with Kudan's own personnel, a team of 30 of the world's leading technical experts has been established**

- Professor Cremers' team of around 20 technical experts have joined forces with Kudan
- Kudan has managed to attain a significant advantage over its competitors by securing this team of experts in the field while there is a global shortage of top engineers and the competition for acquiring such talents is fierce, including even the big-four tech companies

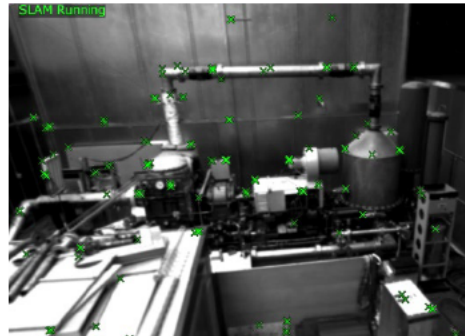
- Company solidification via the acquisition of the IP (Intellectual Property) of future technology
- Aim for successful breakthroughs via industry-leading technology commercialization  
→ Accelerated integrations of each technology, such as SLAM and Deep Learning, Lidar SLAM and Visual SLAM, Direct SLAM and Indirect SLAM



Strength in turning technology into business, with leading, unique methods of implementing technology, and a global track record.

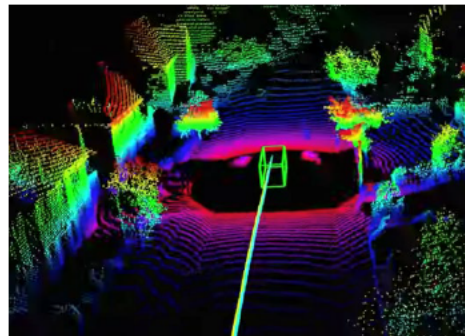
## Indirect SLAM

- Camera image (visual) processing
- Capable of high-speed recognition
- High versatility



## Lidar SLAM

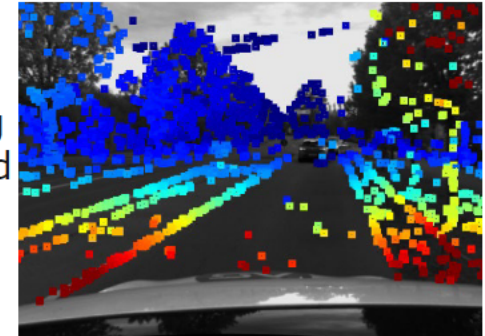
- Lidar data processing
- Strong in recognizing fast movements
- High stability



Headed by a global leader in self-driving automotive research, Prof. Daniel Cremers, technical experts including Ph.Ds from TUM

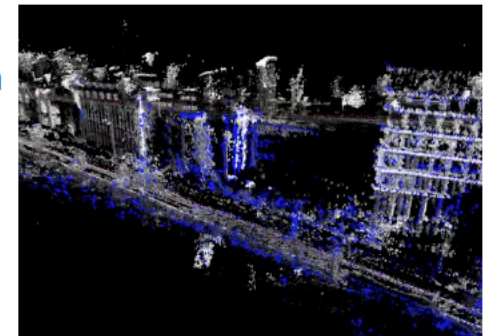
## Direct SLAM

- Camera image (visual) processing
- Capable of detailed recognition
- High stability



## GN-net, etc. (Deep Learning)

- Robust recognition on the verge of a breakthrough
- A revolution in dealing with environmental changes



# Examples of Artisense's projects

- With the world's highest level of technology, Artisense has already developed a large number of projects on a global scale

**SIEMENS**

**BOMBARDIER**



**ECARX**



**RENAULT**  
Passion for life



Autonomous  
Electric Truck OEM



Outdoor delivery robot  
for a general electronics  
manufacturer



Autonomous  
delivery robot OEM



Tier 1 automotive  
supplier



Mobile mapping system



Automotive  
Autonomous Valet  
Parking



Indoor Factory  
Robot



Autonomous Vehicle

**BOMBARDIER** : Canadian industrial transportation equipment OEM, mainly aircraft, and sales of \$6.5 billion (2020)

**DB (Deutsche Bahn)** : Germany's largest railroad company, and sales ~€40 billion (2020)

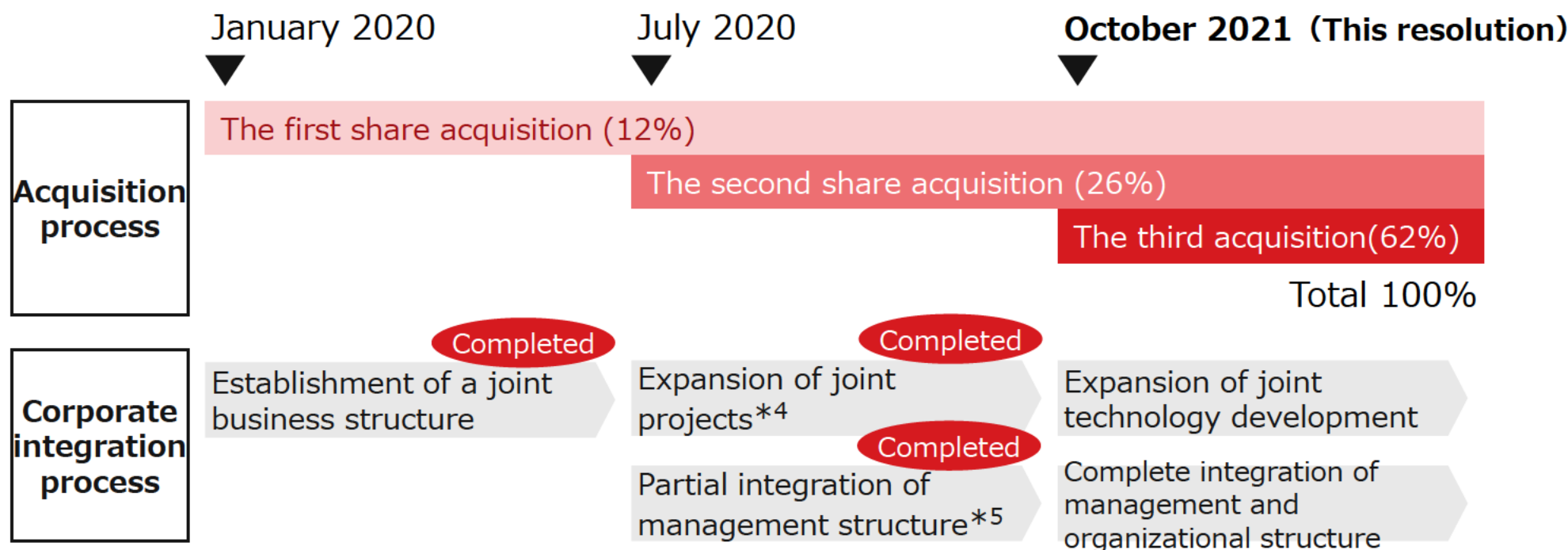
**ECARX** : Chinese autonomous intelligent solutions provider, which received investment from Baidu and Geely and has signed a partnership agreement with Volvo.

**NNG**: Hungary's Tier 1 automotive supplier. More than 30 automotive brands have adopted its solution, and seven of the top 10 OEMs have adopted it.

# The resolution



1. Due to steady progress in the phased corporate integration, the schedule for the third share acquisition was accelerated and moved up to October 26<sup>th</sup> - December 24<sup>th</sup> in 2021 \*1
2. In consideration for the acquisition price of 1.7 billion yen\*2, Kudan will issue 494 thousand new shares\*3.



\*1 Accelerated from the deadline (December 2022) stipulated in the current share purchase agreement (disclosed in April 2021)

\*2 No amendment from the conditions stipulated in the current share purchase agreement (disclosed in April 2021)

\*3 Newly issued shares are subject to lock-up provision or off-market block trade, etc. is planned to be arranged.

\*4 As joint projects, we have conducted 7 paid customer projects, joined the NVIDIA Partner Network, and sponsored ICCV conferences

\*5 Integration of top management through concurrent post of CEOs of both companies



# Impacts on accounting

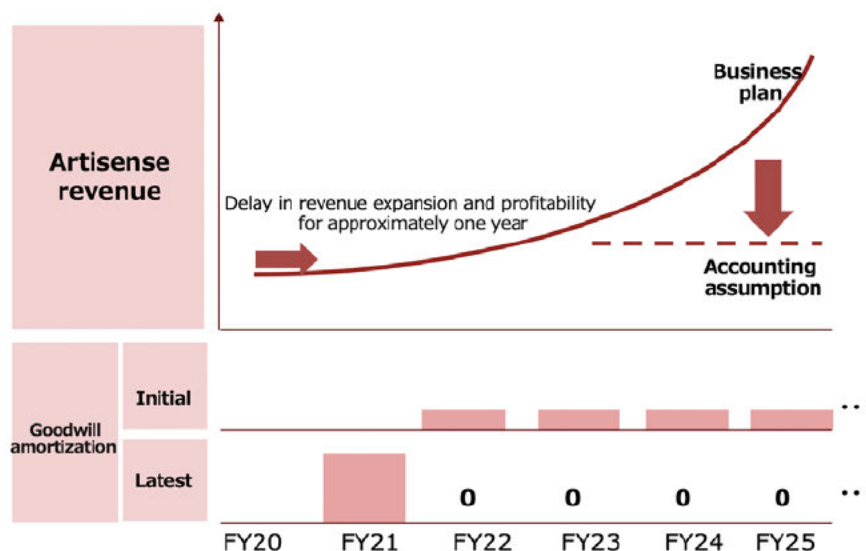
- (Short-term) Possibility that expenses as R&D investment (impairment loss) will be recorded following the amortization of goodwill for the first acquisition and the second acquisition of shares conducted in FY2021\*
- In this case, future goodwill amortization will be reduced, and the contribution to profitability from the expansion of revenue achieved by management integration synergies will be more effective
- (Mid- to long-term) Aim to accelerate revenue growth and expand its scale through management integration

## (For reference) Supplementary Documentation for FY21 Financial Report P3

### Artisense: Share of loss of entities accounted for using equity method (Write-Down in accounting)



- Improvement in future cost structure by moving forward the amortization of goodwill
- Estimated profitability timeline will be pushed back by approximately one year due to the impact of the COVID-19 pandemic and delay in launching a new product (VINS).
- With regards to accounting valuation, an appraised loss of approximately 1.1 billion yen was recorded with the adjustment to a conservative business outlook



- In the business plan, continuous growth from FY23 onward is expected
- Meanwhile, the accounting assumption is based on the conservative scenario of zero growth from FY23 onward.
- As a result, the entire amount of investment was written off and the amount of negative net worth was written down to the loans, resulting in a valuation loss of approximately 1.1 billion yen.
- Goodwill amortization will not be recorded from FY22 onward, meaning contribution for profitability due to the synergies from the expansion of revenue will be more effective

Delays in the business plan due to the impact of the COVID-19 pandemic, etc. will not hinder mid- to long-term growth potential, but the conservative accounting treatment is expected to be maintained for this acquisition as it is immediately after the FY21 financial reporting

\* Details will be disclosed in a timely and appropriate manner once specifically determined

- This document contains Kudan’s plans, estimates and expectations for the future based on its current business situation and industry trends.
- All such projections for the future inherently involve uncertainty and a wide variety of risks.
- It is conceivable that risks both understood and unforeseen, uncertainties and other factors may cause actual results to differ from the projections contained within this document.
- Kudan offers no guarantee of the accuracy of its projections for the future and accepts that they may differ significantly from actual results.
- All projections for the future included in this document are based upon information available to Kudan as of October 4th, 2021, and may not be updated or changed to reflect future developments or changes in status.