VISUALIZE THE FUTURE

DIGITAL MEDIA PROFESSIONALS

Fiscal Year Ending March 31, 2020 First Half

Results Briefing

Digital Media Professionals Inc.

November 12, 2019

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The accuracy of the information therein is not guaranteed.
Please be aware of the possibility that actual performance and results may differ considerably due to a variety of factors.

1 **Explanation of Results, Fiscal Year Ending March 31, 2020 First Half**

2 **This Fiscal Year's Topics and Business Progress**

3 **Fiscal Year Ending March 31, 2020, Full-Year Business Forecast and Blueprint for Future Growth**

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Movements in the AI Industry

- **Explosive increase in AI processing requirements such as image recognition and natural language understanding**

- **Performance improvements reliant on evolution of semiconductor processes reaching their limits (demise of Moore's Law)**

  → Acceleration of development of systems optimized for domains

  - Semiconductors clearly shifting from general-purpose to application-specific
  - Utilization of data linked to customers and acquisition of domain knowledge are key
  - Domain optimization through integrating algorithms, software and hardware is a differentiating factor

- **Acquisition of AI start-ups continues, centered on GAMFA**

  → Competition to acquire AI personnel is fierce. Other companies cannot win on volume and need to shift the axis of competition

Results Highlights: P/L

(Unit: million yen)	1H FY 03/2020 (Initial estimate on May 10)	1H FY 03/2020 (Revised estimate on Oct. 25)	**1H FY 03/2020 (Actual)**	Difference between initial forecast and actual results	1H FY 03/2019 (Actual)	YoY change
Net sales	400	290	**293**	-107	351	-58
Operating income	-115	-210	**-207**	-92	-17	-190
Ordinary income	-135	-234	**-231**	-96	-8	-223
Net income	-135	-234	**-231**	-96	-8	-223

Differences compared to initial forecasts

- Although LSI product business centered on the RS1 image processing semiconductor was as planned, net sales fell below the initial forecast due to some new IP licensing and AI-related professional services projected for the first half being shifted to the second half.
- Despite expenses being almost as planned, operating income, ordinary income and net income fell below the initial forecasts due to net sales falling below the initial forecast.

Changes from the same period of previous year

- Net sales decreased due to a drop in NEDO* commission revenue and a decline in running royalties centered on game consoles
- Operating income, ordinary income and net income all decreased due to the decrease in revenue, increased overall expenses mainly due to strengthening the development system, and recording of share issuance cost

* New Energy and Industrial Technology Development Organization

Results Highlights: Net Sales by Business

IP core license business

Sales ¥82 million YoY change -¥59 million

- Decrease in running royalties centered on game console customers
- Although multiple new license contracts of ZIA edge AI IP "DV series" were recorded, there were no large projects equivalent to the large project recorded in the previous fiscal year
- Some new IP licensing anticipated to be in the first half shifted to the second half

LSI product business

Sales ¥111 million YoY change +¥105 million

- Recorded sales of RS1 for volume production and "ZIA C3" AI FPGA modules

Professional services business

Sales ¥99 million YoY change -¥103 million

- ¥100 million of the previous fiscal year's commissioned revenue related to NEDO's project "AI Platform for Artificial Intelligence (AI): An Energy Efficient AI Engine and an Integrated Cloud of Heterogeneous AI engines" was stripped away (Became a subsidized project from this fiscal year, resulting in the recording of non-operating income)
- Some commissioned projects anticipated to be in the first half shifted to the second half

Results Highlights: B/S

Increased equity through business and capital tie-up with Yamaha Motor

(Unit: million yen)	End of March 2019	End of September 2019	Increase-decrease amount
Current assets	2,063	2,563	+500
Non-current assets	320	899	+579
Total assets	**2,383**	**3,462**	**+1,079**
Current liabilities	366	194	-172
Non-current liabilities	18	18	-0
Total liabilities	385	213	-172
Total net assets	**1,998**	**3,249**	**+1,251**
Total liabilities and net assets	**2,383**	**3,462**	**+1,079**

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Areas of Application of Edge AI for Resolving Social Issues

Examples of resolving social issues through edge AI

Agriculture — Unmanned farming equipment

Labor shortage in Japan and increased global food demand

- Forecast of agricultural workers in Japan
  2.19 million in 2010 → 1.42 million in 2035
  (Source: Ministry of Agriculture, Forestry and Fisheries, October 2018)
- Forecast of global food demand
  4.47 billion tons in 2000 → 6.93 billion tons in 2050
  (Source: Ministry of Agriculture, Forestry and Fisheries, September 2019)

Manufacturing — Product quality testing

Improvement of productivity associated with the labor shortage is an issue

- Future efforts most emphasized in measures to secure personnel by the manufacturing industry (large enterprises)

1st: Streamlining of production processes through the utilization of IT, IoT, Big Data, AI, etc.

2nd: Efforts to revise and improve human resource development methods

3rd: Strengthening of recruitment of new graduates

(Source: 2018 White Paper on Manufacturing Industries)

Transportation — Internal and external monitoring of automobiles

Increase in dangerous driving and rise in number of fatal accidents involving elderly drivers

- Number of violations of duty to maintain distance between automobiles
  7,133 in 2017 → 13,025 in 2018 → 6,873 in first half of 2019
- Number of fatal accidents involving elderly drivers in 2018 (per licensed population of 100,000)
  80 or older: 11.1; 75 or older: 8.2; younger than 75: 3.4

(Source: National Police Agency materials)

Medical — Supplementary pathology diagnostic imaging

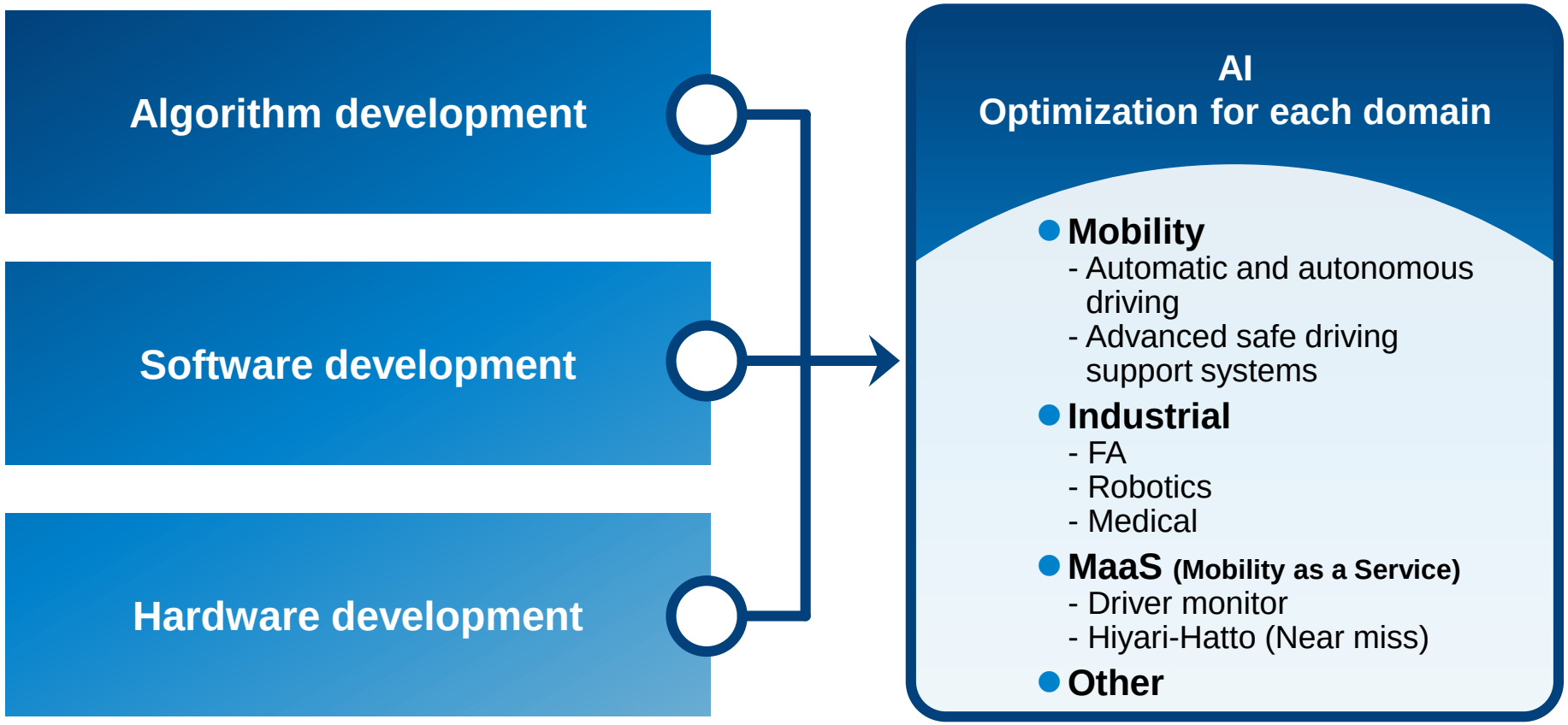
High burden on Japanese radiologists

- The number of CT/MRI readings per radiologist in Japan is 2.78× to 4.17× the number in other developed countries

Source: Kanako K. Kumamaru et al. “Global and Japanese regional variations in radiologist potential workload for computed tomography and magnetic resonance imaging examinations” Japanese journal of radiology, Feb. 2018

Value Proposition and Monetization by DMP

- **Provision of domain-specific solutions through a development system integrating algorithms, software and hardware**
- **Monetization through optimization services and hardware acceleration for systems developed by customers**



Progress of this Fiscal Year's Priority Topics and Measures in the Time Ahead

1 **Expanding RS1 Business**

2 **Expanding Portfolio and Sales of AI Products**

3 **Strengthening Collaboration with Customers and Cultivating Specific Fields**

RS1, Next-Generation Graphics Processor Now Producing in Volume and Shipping

- **Adopted by ZEEG, a joint venture between Sammy and Universal Entertainment, with shipments to pachinko parlors starting in 2019**
  - As the number of titles scheduled for release increases, full expansion of volume is expected from next fiscal year
  - Adoption of ZEEG's industry-standard chassis by other game machine manufacturers is increased

- **Support for android OS, with shipments for arcade machines scheduled to commence this fiscal year**

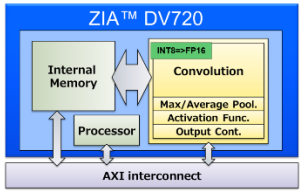
- **Maintaining and strengthening QCD control, as demand for switching to new regulation machines will gain momentum with the full removal of the previous regulation machines in January 2021**

Strengthening of ZIA AI processor IP, module, and software product

IP Core Products

ZIA™ DV500/DV720

Compact and high performance **AI inference processor IP** that uses deep learning



Application
- AI-integrated camera SoC
- Autonomous driving SoC

Update
- Announcement of DV720 (8bit INT support)

Initiatives
- Improvement of performance
- Enhancement of line-up

Module Products

ZIA™ C2/C3

Flexible and low power consumption **AI inference processing module**, mounting DMP DV700 to FPGA

Application
- Industrial machinery
- Robotics
- Medical equipment

Update
- Release of C3 Ver7.2 (Improved performance)

Initiatives
- Development of products with high added value, such as products with built-in cameras

Software Products and Services

ZIA™ SAFE

ZIA™ Classifier **ZIA™ Plate**

- Self-developed and advanced **image recognition engine** based on AI and image-processing technology
- Provision of **professional services** optimized for each domain

Application
- Driver monitoring
- Analysis of near misses
- Medical diagnosis

Update
- Sale of ZIA Plate
- Acceleration of service aimed at safe driving support (ZIA SAFE)

Initiatives
- Optimization aimed at growth domains

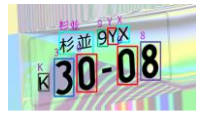
Topics - AI Products

ZIA Classifier adopted in the Hiyari-Hatto (near-miss) analysis utilizing Denso Ten's drive recorder (Announced on October 8)

- Adopted in the image analysis service for the "G500/G500Lite" drive recorder provided by Denso Ten
- Detection and tracking of objects such as tracks, vehicles, traffic lights and pedestrians from drive recorder video using AI/deep learning technology and image processing technology
- Ascertaining when, where and what kind of near-miss incidents occurred in greater detail by combining various types of sensor data with GPS data
- Enhancement of detection and analysis of dangerous driving by updating various AI models and combining these with big data analysis of video and sensor information

Start of sale of "ZIA™ Plate" number plate recognition software (Announced on July 30)

- Utilizing AI and deep learning technology to read region name, classification number, hiragana and vehicle number with higher precision and 1/100 of the load of OCR technology
  - Recognition precision of 95% or higher
  - Recognition speed of 100ms or less (when using DMP C3 module)
  - Can recognize special plates and various countries' plates due to the use of AI
  - Adopted by major industrial machinery manufacturer



ZIA Classifier

Powerful support for development of the latest AI systems optimized for customer domains

Driver Monitoring System

Smart mobility with a smile
Sumitomo Mitsui Auto Service

Outside-Car Surveillance System
Analysis of near misses

DENSO TEN

Automatic / autonomous driving systems for low speed vehicles

YAMAHA

Smart mirrors
Safe driving support systems

Restar Holdings

Medical diagnostic imaging
Company A: Privacy Protection

Examples of systems specialized for customer domains

ZIA™ Classifier

Advanced Object Recognition / Classification Engines

Deep learning inference engine

Learned model

Computer vision

Optimized library

Creation and optimization of systems specialized for a variety of domains by combining the latest AI algorithms

Full implementation of professional services aimed at development of safe driving support systems (announced on November 8)

Systemizing the necessary functions into "ZIA™ SAFE" for realizing driver monitoring, Hiyari-Hatto (near-miss) detection, and tailgating detection systems using drive recorders to provide support for the creation of advanced safe driving support systems by customers in a short period

System requirement specifications

Image data

ZIA™ SAFE — **Professional services aimed at safe driving support systems**

Image analysis using AI and deep learning

Recognition of people, vehicles and objects		Recognition of road and surrounding conditions		Face and eyeline detection	Pose estimation	Direction estimation	Distance estimation	Privacy protection
Detection	Tracking	Analysis	Prediction					

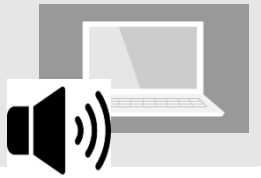
Building blocks of "ZIA™ SAFE"

- The building blocks of "ZIA™ SAFE" are combined and customized to match customer specifications
- Creation of training labels, training, optimization of neural networks, performance evaluation, model compression, acceleration
- GUI development
- Realization of hardware acceleration according to customers' requirements for acceleration and low power consumption

Customers' system

- **Driver monitoring**
- **Near-miss detection**
- **Tailgating detection**

Drive recorder → **Image analysis engine** → Image analysis tool (UI/UX tool)



Technical partnership with Computermind Corp. in an integrated environment spanning from creation of AI aimed at product visual inspections to implementation of edge AI

(Announced on October 1)

- Technical partnership for jointly creating AI and deep learning solutions supporting the reduction of labor and automation of product visual inspections
  - Linking of ZIA™ C3 with Computermind's "DeepEye" development environment for product visual inspections
  - It is possible to create a product visual inspection process not dependent on personal resources or individual skills and know-how by converting the quality determination know-how that had previously been dependent on the skills and experience of skilled workers into image data, and automating inspections using AI.

Strengthening Collaboration with Customers and Cultivating Specific Fields

Business and capital tie-up with Yamaha Motor

Currently performing joint development in business alliance areas such as development of automatic / autonomous driving systems in low speed areas, and development of labor-saving and automation systems in agricultural areas, etc., that use robotics technology

Deeper exploration of the mobility area

- Currently conducting several projects on vehicle exterior and interior monitoring
- Currently conducting several projects on number plate recognition

Emergence into medical AI area

(Adopted in NEDO "Project for Accelerating Innovative AI Chip Development")

- Research and development of AI hardware for AI pathology imaging system for cancer companion diagnostics

Improvement of technological capability through NEDO projects, application to own business and realization of social contributions

Adopted in "Project for Accelerating Innovative AI Chip Development" (subsidized project)

- **Purpose**

As the number of cancer diagnoses increases and advanced diagnosis is required, conduct research and development of AI pathology systems for cancer companion diagnosis with the aim of reducing the burden on pathologists and improving the precision of diagnoses

- **Details**
  - Realize a companion diagnosis AI system presenting potential treatment directions based on past data by combining pathologic image recognition and clinical/surgery reports and applying AI technology in pathologic diagnosis such as that used to identify cancer tissue
  - By learning analysis results based on automatic characteristic analysis algorithms for pathology images and clinical information databases, perform research and development of AI hardware that realizes real-time image recognition and diagnosis processing on devices when pathologists perform slide operations using a microscope
- **Period: July 2019 - March 2020 (with extension)**

Adopted in "Survey of issues for finding ideas regarding Technology Development for AI Chip and Next-generation Computing for High-efficiency and High-speed Processing" (commissioned project)

- **Purpose**
  - Hold a contest on the precision of self-driving image recognition technology for the world's engineers, researchers and students, etc. to discover excellent technology, advanced ideas and personnel
  - Improvement of recognition technology in self-driving vehicle image
- **Details**

  DMP and SIGNATE jointly run the AI edge contest
- **Role of DMP**
  - Leveraging its strength of having a development system spanning AI algorithms, software and hardware to hold and run the contest on the implementation of AI mainly in edge devices (implementation of AI algorithms in FPGA, etc.)
  - Creation of data sets
  - Investigation and analysis of collected ideas, organization of effect and issues of discovery of ideas
- **Period: August 2019 - February 2021 (with extension)**

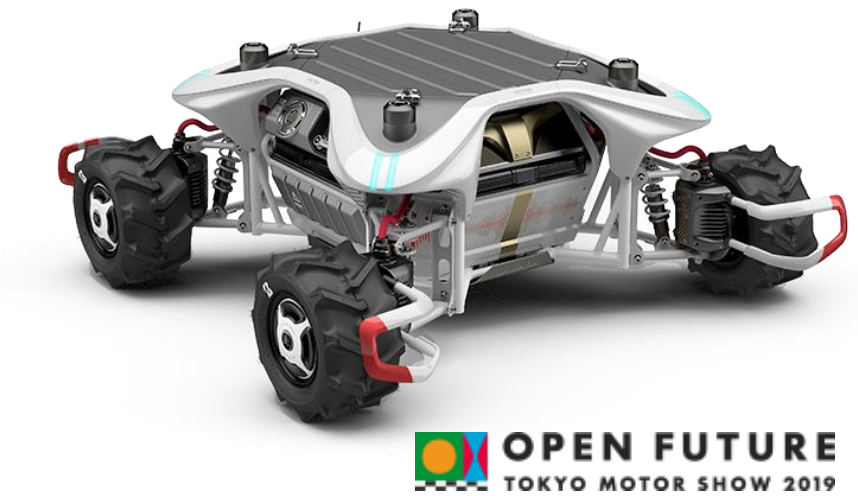
Progress of Business and Capital Tie-UP with Yamaha Motor

Collaborating in the final commercialization process from developing algorithms by applying AI technology through to mounting on products

Development of systems optimized for each product domain of Yamaha Motor by using DMP's AI algorithms, software, and hardware technology

Development centered on professional services is ongoing with the aim of providing intelligence to the products of Yamaha Motor in the mobility area

- Development of low-speed automatic / autonomous driving systems (aimed at agriculture, factories, etc.)
- Development of advanced safe driving support systems for fast vehicles
- Acceleration of development speed from second quarter



Yamaha Motor Land Link Concept

Automated solution vehicle that freely roams the land while sensing its surroundings.
Its path is determined by AI image recognition, and it can detect and avoid obstacles that block its way.

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Full-Year Business Forecast

The full-year business forecast remains the same as the initial forecast announced on May 10

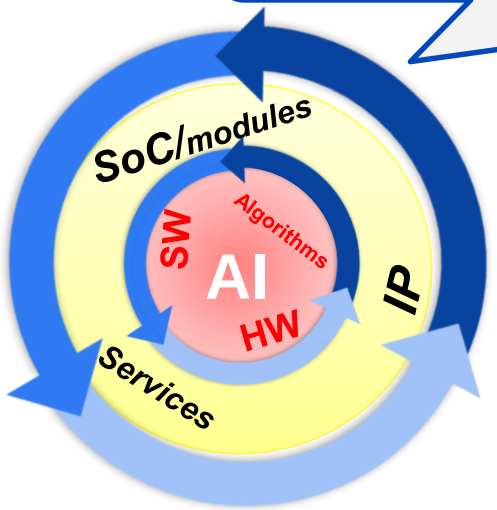
(Unit: million yen)	FY 03/2019 (Actual)	FY 03/2020 (Forecast)	YoY change	
			Increase-decrease amount	Increase-decrease rate (%)
Net sales	1,086	**1,300**	**214**	**19.6**
Operating income	28	**30**	**2**	**3.6**
Ordinary income	33	**30**	**-3**	**-9.9**
Net income	35	**20**	**-15**	**-43.1**

- Shipments of "RS1" are expected to accelerate in the second half of the year
- The IP core license business and the AI-related professional services business could recover performance including the closure of ongoing deals from the first half
- An increase of commissioned projects is expected as the business alliance with Yamaha Motor accelerates in the second half
- Operation of the "AI Edge Contest" that is a NEDO commissioned project will also contribute to revenue from the second half

Blueprint for Future Growth

Evolve into the world's leading "AI Computing Company"

Integrated development of AI algorithms, software and hardware



Stable management foundation in the amusement market where we can win

Expand sales of RS1

Aiming for top share in amusement SoC

Expansion into the growing IoT/AI field

Development of ZIA platform

- Processor IP
- Software
- Modules
- Strengthening of ecosystem with partners
- Overseas expansion

AI solutions for Mobility / Industry

- Autonomous driving
- Robotics

Expansion of the SoC / Module Business

- High value-added modules
- High-volume AI products

Current position

Phase 1 | Phase 2 | Phase 3

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Forward-looking statements contained within this document are based on currently available information and involve risks and uncertainties, including macroeconomic conditions and trends in the industries in which we are engaged. As such, actual results may differ materially from those anticipated.

Appendix

Business description

Business	Description	Major Customers
IP Core*1 License Business	Development and license offer of hardware IP (logic design data etc.) and software IP (mainly hardware control drivers and supporting tools for contents creation) necessary for drawing detailed images and artificial intelligence*2 (AI) such as deep learning*3 a) License fee Compensation through offering IP core license in the process of developing products such as home appliances by customers b) Running royalty Compensation received according to the number of products incorporating IP core shipped by customers	Semiconductor manufacturer/ Manufacturer of final product with embedded semiconductor
LSI Product Business	Development, manufacturing (outsourced) and sales of graphics LSI*4 (SoC*5) mainly for amusement equipment	Semiconductor trading company/Manufacturer of final product with embedded semiconductor
	Development, manufacturing (outsourced) and sales of AI LSI (FPGA*6) for AI equipment	
Professional Service Business	Provision of design service of studying and optimizing the entire SoC system by integrating various IP cores of the Company, software service of developing and optimizing algorithm based on GPU*7/vision /AI technology cultivated through development of in-house products, etc.	Manufacturer of final product with embedded semiconductor

*1: Partial circuit modules within an LSI, designed for a specific function (e.g. graphics IP core). IP stands for Intellectual Property.
*2: Software and system that enable computers to make human-like perceptions and judgments such as computer programs that understand and judge sentences, images, conversations, sounds, etc.
*3: A type of machine learning method that realizes artificial intelligence by utilizing human brain imitated neural network mechanism, which is being commercialized in the field of image recognition
*4: Large-scale integrated circuits composed of silicon wafers (materials with properties intermediate between conductors and insulators used in the manufacture of semiconductor products). LSI stands for Large Scale Integration and is also called "semiconductor".
*5: Integrated circuit (design method) that integrates a series of functions (systems) required on one semiconductor chip. SoC stands for System on a Chip.
*6: Integrated circuit that allows buyers or designers to set and change the configuration after manufacturing. FPGA stands for Field Programmable Gate Array.
*7: Arithmetic unit or processor specialized in real-time image processing represented by computer games. GPU stands for Graphics Processing Unit. By utilizing its better performance in parallel computing performance than CPU, technologies called GPGPU (General-Purpose computing on GPU) that apply its computing resources to purposes other than image processing are applied to the AI/deep learning field.

Major Activities (Fiscal Year Ending March 31, 2020)

Each item is linked to PR/IR news (in Japanese or English) of DMP's website.

Date of Announcement/Event	Details
April 3 - April 5, 2019	Partners exhibited ZIA™ C3 KITs at AI (Artificial Intelligence) EXPO
April 10, 2019	Release of ZIA™ C3 KIT Ver. 7.1
May 10, 2019	Business and capital alliance with Yamaha Motor Co., Ltd.
May 16, 2019	Image processing processor "RS1" adopted by ZEEG, a joint venture between Sammy and Universal Entertainment as units and parts for pachinko/pachislot machines
May 17, 2019	Acquired certification of International standard "ISO9001"
May 20 - May 23, 2019	Exhibit at "Embedded Vision Summit 2019" (Santa Clara, California, USA)
May 21, 2019	Release of ZIA™ DV720 IP Core
June 7, 2019	President Yamamoto invited to the Pitch to the Minister hosted by Mr. Takuya Hirai, Minister in charge of Information Technology Policy
June 12 - June 14, 2019	Exhibit at "Image Sensing Show 2019"
June 24, 2019	Release of ZIA™ C3 KIT Ver. 7.2
July 24, 2019	Mr. Takuya Hirai, Minister in charge of Information Technology Policy, visited DMP
July 30, 2019	Release of license plate recognition software "ZIA™ Plate"
August 7, 2019	"Research and development of AI hardware for AI pathology imaging system for cancer companion diagnostics" adopted as NEDO's "Project for Accelerating Innovative AI Chip Development"
October 1, 2019	Technical partnership with Computermind Corp. in an integrated environment spanning from creation of AI aimed at product visual inspections to implementation of edge AI
October 8, 2019	Image recognition engine ZIA™ Classifier is adopted for Hiyari-Hatto (near-miss) image analysis for DENSO TEN Drive Recorder
October 25, 2019	Adopted for NEDO project of "Survey of issues for finding ideas regarding Technology Development for AI Chip and Next-generation Computing for High-efficiency and High-speed Processing"
November 8, 2019	Going into full scale in professional services for safe driving support system development. Systemizing the necessary functions into "ZIA™ SAFE" for realizing the driver monitoring, Hiyari-Hatto (near-miss) detection, and tailgating detection systems using drive recorders