

PRESS RELEASE

September 7, 2020

**“PlantStream Inc.” Starts Operating
- with an Innovative Plant Engineering Tool
“Pipe Auto Routing and 3D Plant Layout Design System” -**

Chiyoda Corporation (“Chiyoda”, TSE:6366, ISBN: JP3528600004) and Arent Inc. (“Arent”) are pleased to announce that we have established “PlantStream Inc.”, a company that introduces an innovative 3D plant engineering tool to plot planning^{*1}, piping, and civil and structural work, and started its operation on August 3, 2020.

1. History

Chiyoda and Arent have jointly developed a system to improve efficiency of 3D plant engineering over several years complementing Chiyoda’s philosophy, experience, and knowledge of plant engineering with Arent’s CAD and optimization technologies under the concept of ‘agile software development’^{*2}. This is our “pipe auto routing and 3D plant layout design system”.

Our innovative system, “PlantStream™”, has been developed and proven to realize an 80% reduction in work volume of 3D plant engineering in basic design, making it possible to build a 3D model^{*3} at a speed up to 5 times faster than before.

Considering the above, Chiyoda and Arent have agreed to establish PlantStream Inc. and promote PlantStream™ as an industry-specific software (Vertical SaaS) to clients such as plant owners, technical consultancies, and EPC contractors.

2. Meaning for Chiyoda

Traditionally an enormous amount of time has been spent managing multiple revisions of designs with 3D engineering as design tasks are carried out simultaneously.

Especially in piping design, there is a difficulty in standardizing and transmitting experience and knowledge because issues with process and instrumentation design, operability, maintainability, environment, and constructability vary from plant to plant.

PlantStream™ seamlessly connects process and instrumentation designs with 3D design data, and instantly builds the 3D model. This enables 3D plot planning from 2D and rapid quantitative comparisons between plot plans.

It means that we can compare multiple plot plan options co-currently, which was previously impossible.

Chiyoda will cooperate in the development of PlantStream™ for the further improvement of plant engineering. In addition, Chiyoda is utilizing not only PlantStream™ but also various digital technologies to transform workflows and realize the Target 20⁴ concept. Through the above, Chiyoda re-defines its value in engineering and continues to work toward the realization of “Chiyoda’s Revitalization Plan – Initiatives for revitalization and the future”.

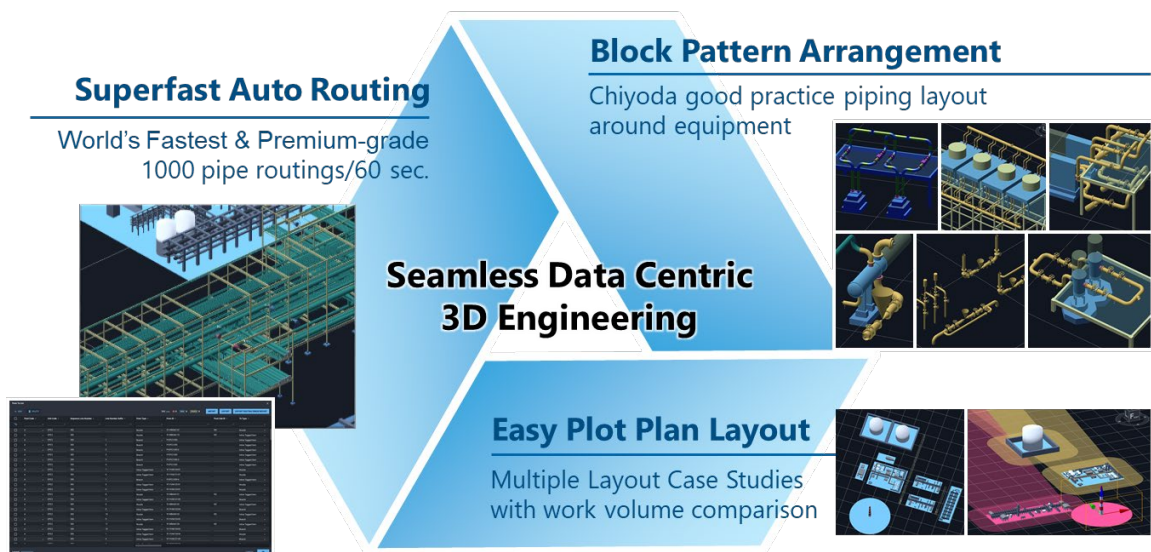
3. Meaning for Arent

We at Arent are revolutionizing CAD. More precisely, we are transforming it to set off a revolution in the lives of overworked engineers. Building an algorithm of the tacit knowledge of expert engineers, we developed autonomous CAD called PlantStream™. It has become an epoch-making system that helps many engineers deliver their work but also enables them to engage in more creative work.

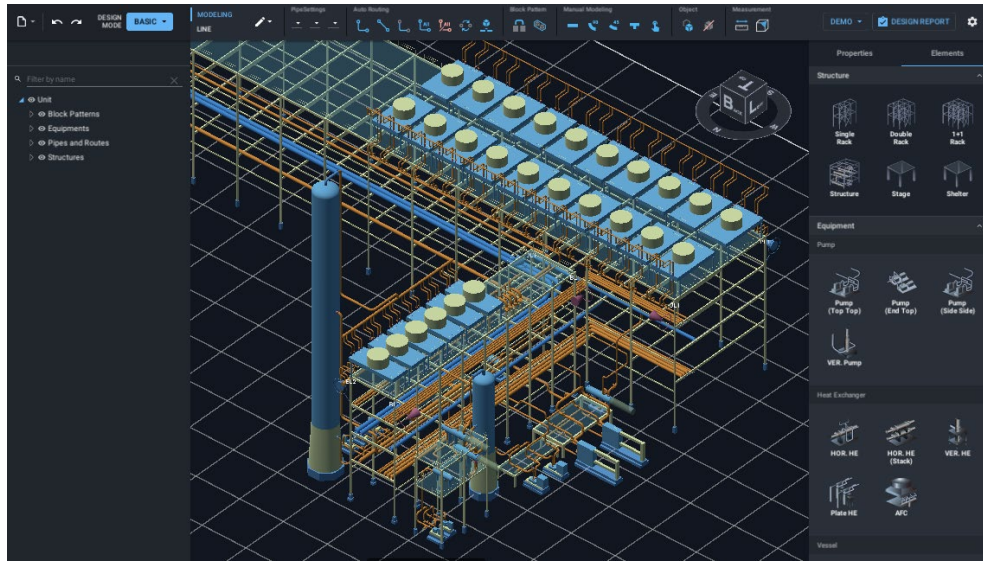
Arent is convinced that the key to success is an achievement of joint technological development between a traditional company with a history and a startup with speed and technological capabilities.

PlantStream Inc. is a symbolic joint venture that is founded 50:50 stake in companies with completely different backgrounds, as described above. Arent will work together with Chiyoda to move PlantStream Inc. forward and drive innovation.

[Functions of PlantStream™]




[Image of PlantStream™]



[Demo movie of PlantStream™]

https://youtu.be/y_NKZNwLqXs

[PlantStream Inc.]

Company Name	PlantStream Inc.
Location	Chuo-ku, Tokyo
Representative	Seitaro Narue, Director & CEO Takeshi Oda, Director & Co-CEO
Main Business	Development and sales of "PlantStream™"
Share	Chiyoda 50%, Arent 50%
Date of establishment	1 st Jul, 2020
HP	https://plantstream3d.com/
Logo	

[Chiyoda Corporation]

Company Name	Chiyoda Corporation
Location	Yokohama, Kanagawa
Representative	Masaji Santo, President & COO
Main Business	Integrated engineering business including consulting, planning, engineering, procurement, construction, commissioning, and maintenance for facilities related to gas, electricity, petroleum, petrochemical, chemical, pharmaceutical, antipollution, environment, preservation, and

	other services. Exploration of oil, gas, and other mineral resources, and investment and financing to such exploration activities.
HP	https://www.chiyodacorp.com/en/

[Arent Inc.]

Company Name	Arent Inc.
Location	Chuo-ku, Tokyo
Representative	Hiroki Kamobayashi, CEO Fumitaka Sakai, COO
Main Business	<ul style="list-style-type: none"> ● Software development with 3D optimization technology ● Smartphone App development ● Development of web services with IoT / cloud ● Consulting service for Digital Transformation
HP	https://arent3d.com/en/

- *1. Engineering work that decides where to locate equipment and machinery in plants. Designed with consideration for safety, operability, maintainability, workability, and economic efficiency in addition to geographical factors.
- *2. Compared with the conventional waterfall type system development method, agile software development divides the development process into discreet functional units. Requirement Definition, Development, and Testing are performed for each functional unit, and a large system can be aggregated by repeating these.
- *3. Creating a 3D Model of approximately 1,000 pipes used to take several months. Chiyoda has succeeded in shortening this to less than 60 seconds using “PlantStream™”.
- *4. Through the corporate digital transformation activity “Target 20” aiming to improve operational efficiency by 20%, Chiyoda is adopting innovative workflows and RPA (Robotics Process Automation) in engineering, procurement, construction, commissioning, and other corporate business fields.

For more information, please contact:

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Arent Inc.

Corporate Department

URL: <https://arent.typeform.com/to/eulTce>