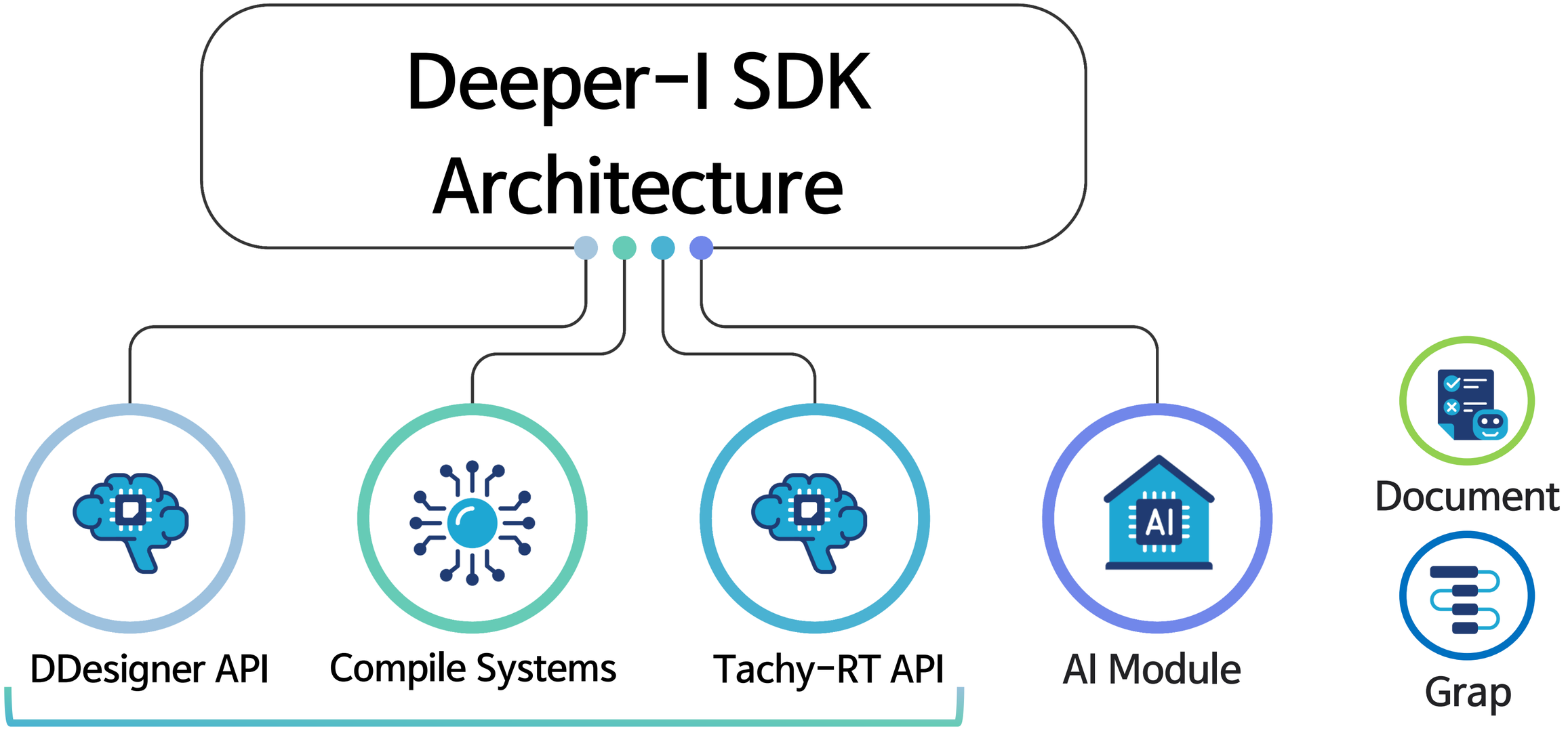
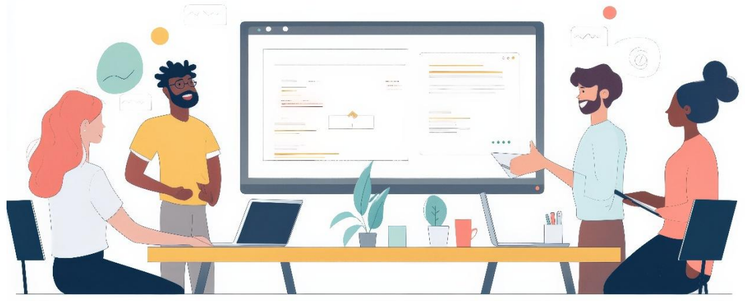
Deeper-I SDK Guidebook

Deeper-I

Deeper-I SDK Architecture



Deeper-I will continue to "**optimize artificial intelligence models** – **compilers** – **real-time inference based on Deeper-I specific NPU environments**“ The entire process of AI solution development is implemented with its own technology, and smart mobility, smart vision, and smart It is applied to various daily and industrial sites such as factories and sports to create unrivaled value.

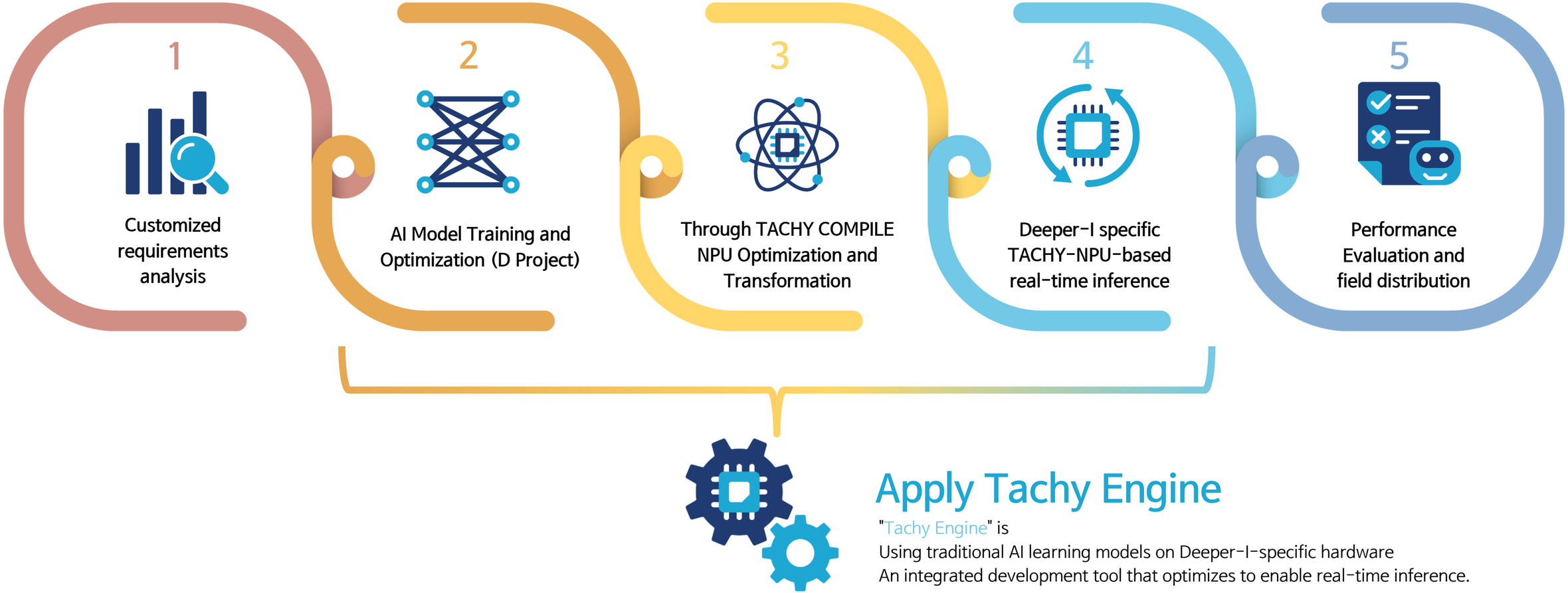


Deeper-I delivers reliable and proven AI solutions across numerous real-world deployments.

Deeper-I AI Solution Development Process

Complete End-to-End Development Process

It supports the end-to-end development process from Model Optimization to Compile to Inference, Deeper-I unique quantized structural lightweight technology (based on XWN) enables high-performance, low-power, high-speed processing, and multi-board environments.

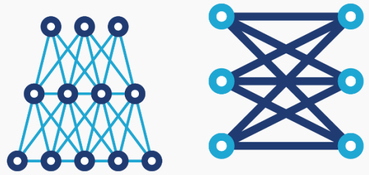


Apply Tachy Engine

"Tachy Engine" is
Using traditional AI learning models on Deeper-I-specific hardware
An integrated development tool that optimizes to enable real-time inference.

Key Features and Flows of Deeper-I's Tachy Engine

1. Training
(Model Optimization)

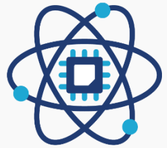


Models trained with PyTorch (model.pth/model.pt) or TensorFlow (model.h5, saved_model.pb) are converted into DPDE hardware-specific parameters through the DDesigner API.

[XWN Structural Lightweight Application]

Server

2. Compile
(Compilation of models)

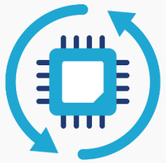


The Tachy Compile is responsible for converting the optimized model format returned during the training phase to ONNX and to .tachyrt, an extension dedicated to Deeper-I.

[ONNX → Compiled in Deeper-I Only Format .tachyrt → Create a .tachyrt file and apply hardware]

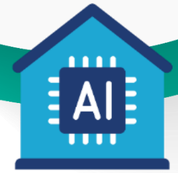
Server

3. Inference
(Execution and inference)



Upon receiving the .tachyrt (Deeper-I only extension file) that was converted to the final format during the Tachy Compile phase, the User will perform simultaneous remote control and inference of the Deeper-I hardware with ./run commands through the Tachy-RT API.

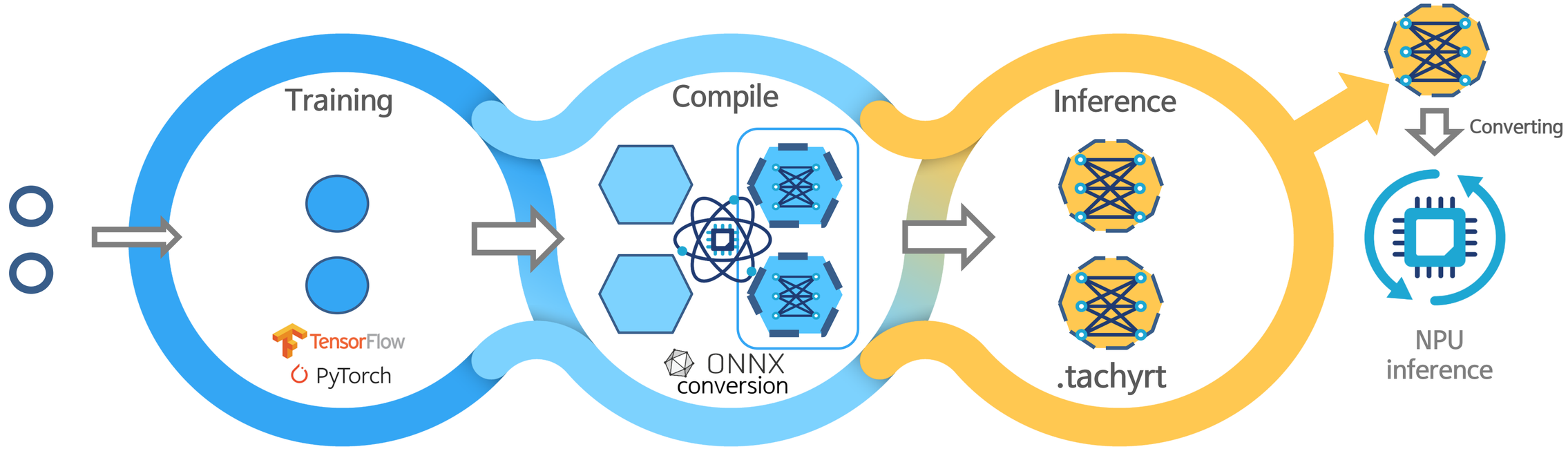
[Based on RPC, externally Performing Remote Control and Inference]



H/W
(NPU)

Data Optimization Transformation Flow for Deeper-I Only

The flow of Data Optimization Transformation through the Tachy Engine is as follows.



First time dataset put in

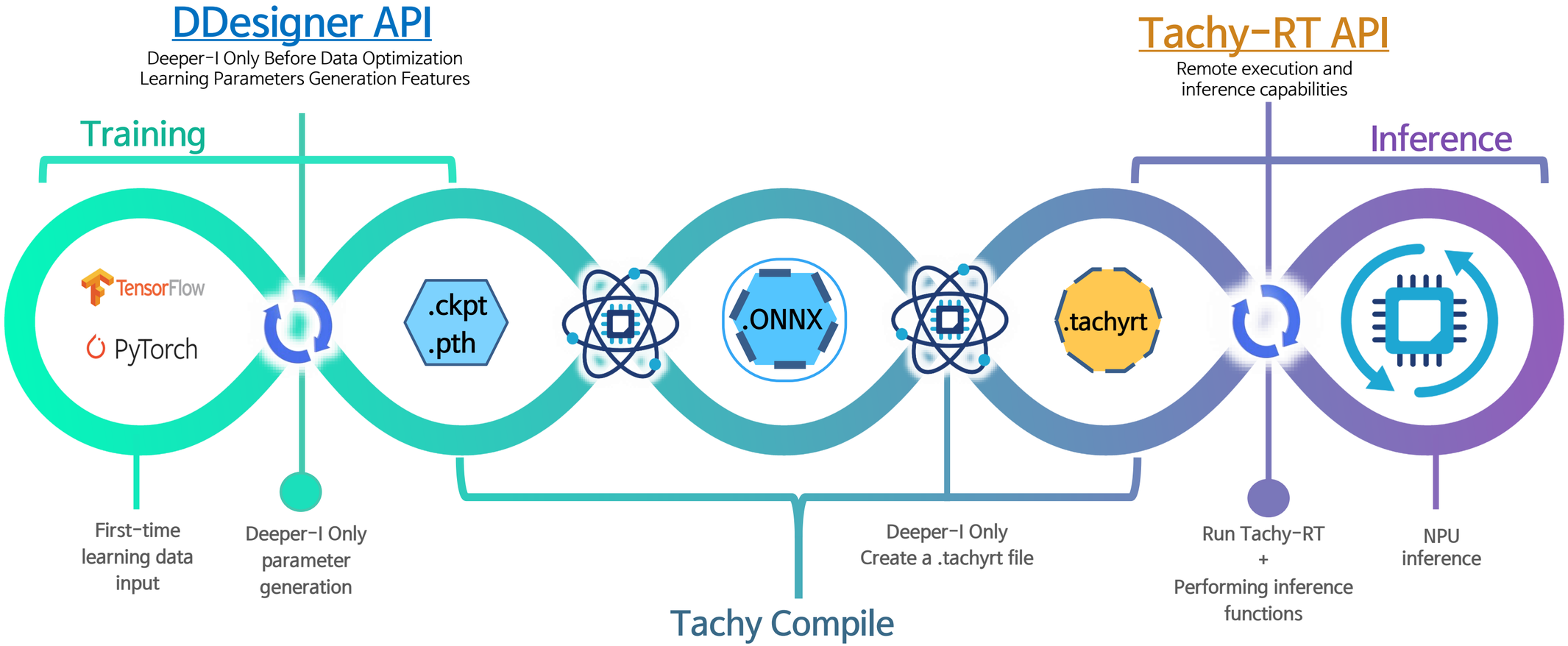
Deeper-I Only parameter generation

Deeper-I Only Create a tachyrt file

./run Features Execution and inference

API application flows that support Data optimization and inference

The execution application of the DDesigner API and the Tachy-RT API is carried out by the data conversion and application process in the following flow.



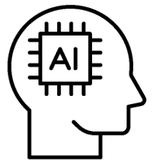
DDesigner API Guidebook PDF Link

Tachy-Compile Guidebook PDF Link

Tachy-RT API Guidebook PDF Link

Deeper-I NPU Board Products

Products covered by Deeper-I SDK guide are as follows.



NPU: BS402

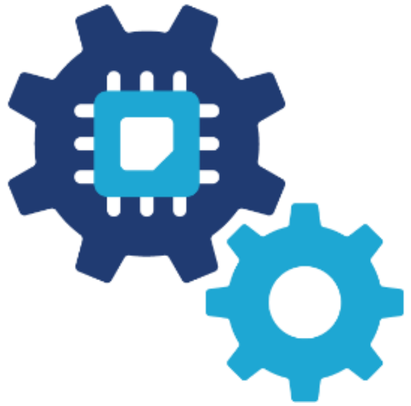
[Tachy-Shield Brochure Link]

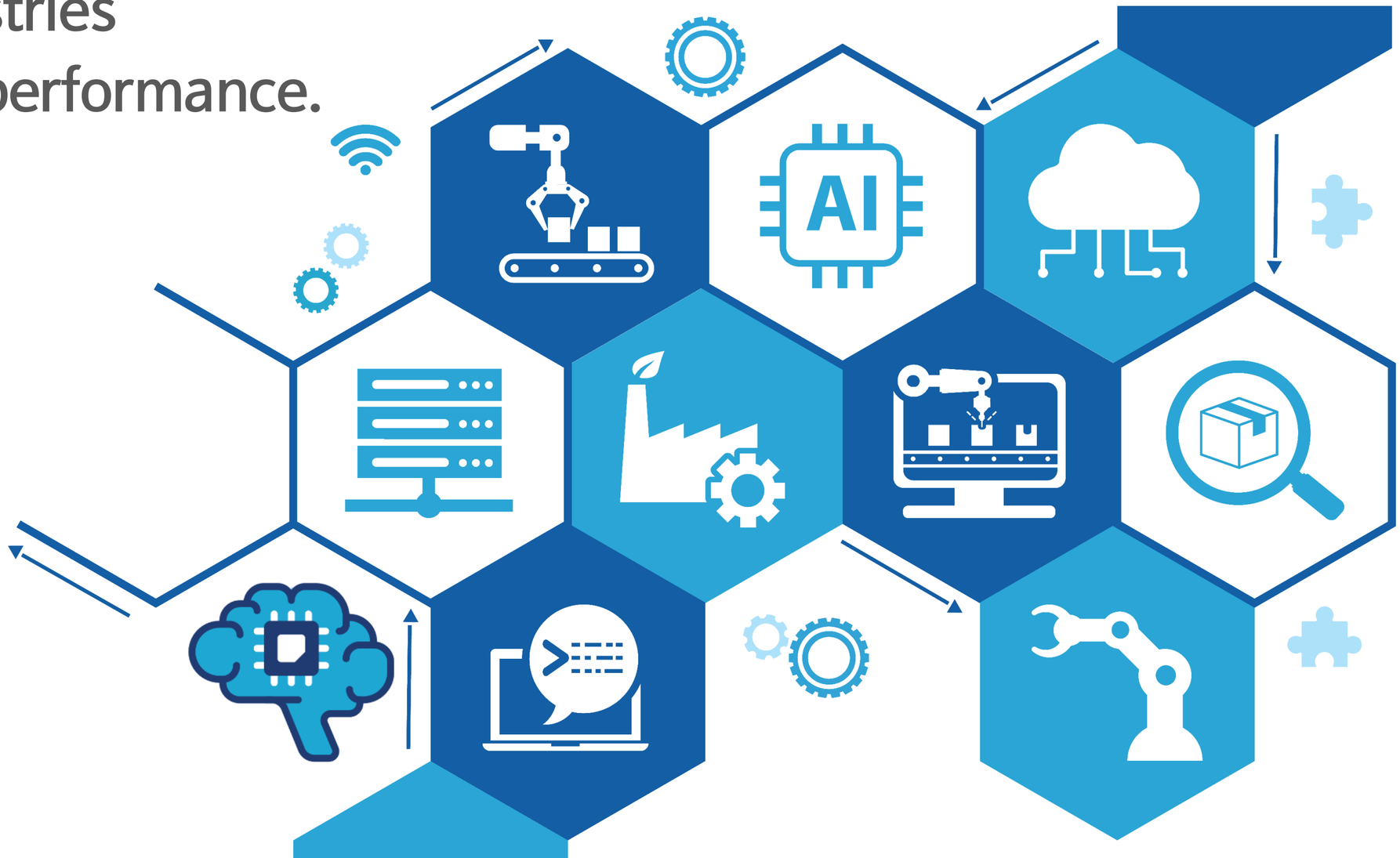
[TAU_Sodimm Brochure Link]

[TAU_M.2 Brochure Link]

Deeper-I's Tachy engine

Now, in many industries
I'm using it for my performance.





Deeper-I's own Tachy engine Its technology has already been proven through collaboration with various companies.

Your success and Deeper-I are with you.

Innovation in edge technology creates a smarter tomorrow.

Customer Support
- Business: partner@deeper-i.ai
- Website: https://www.deeper-i.ai