Intro to DeepStream
NVIDIA JETSON
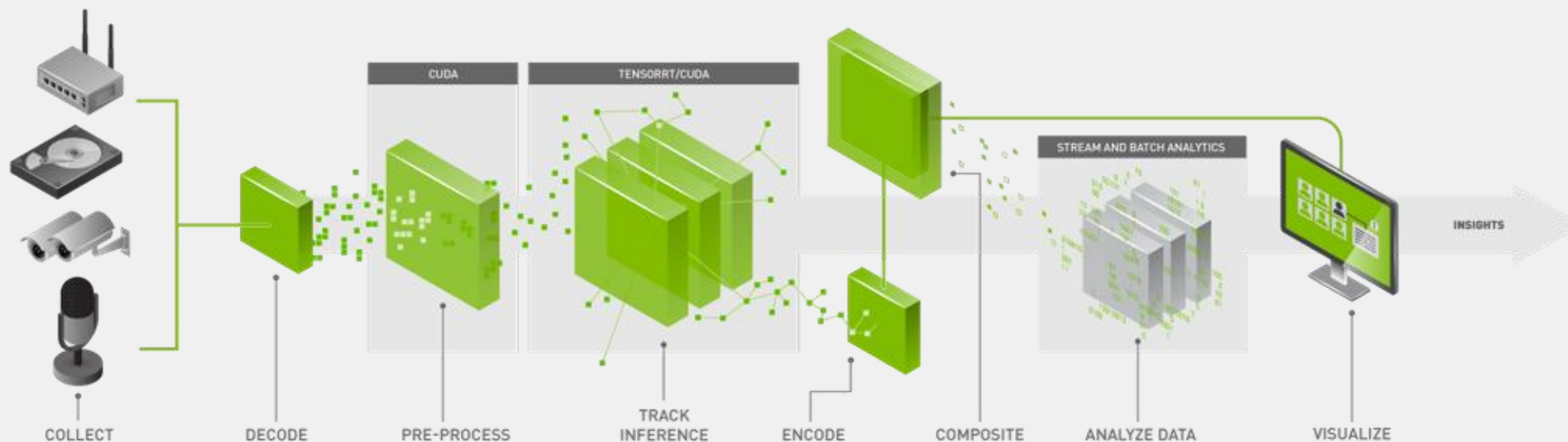
Content
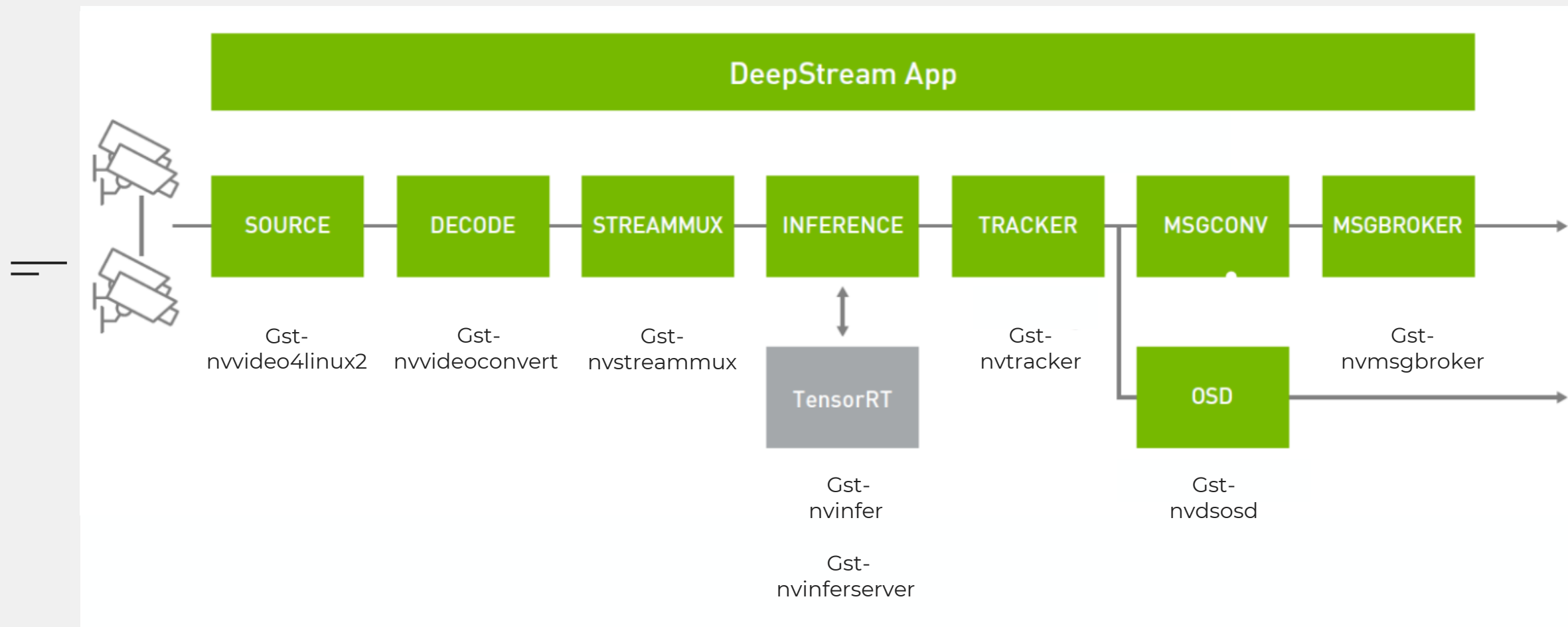
- **Review DeepStream pipeline**
- **DeepStream plugins**
- **DeepStream-app config file structure**

DeepStream SDK

Pipeline

CUDA | TENSORRT/CUDA | STREAM AND BATCH ANALYTICS | INSIGHTS

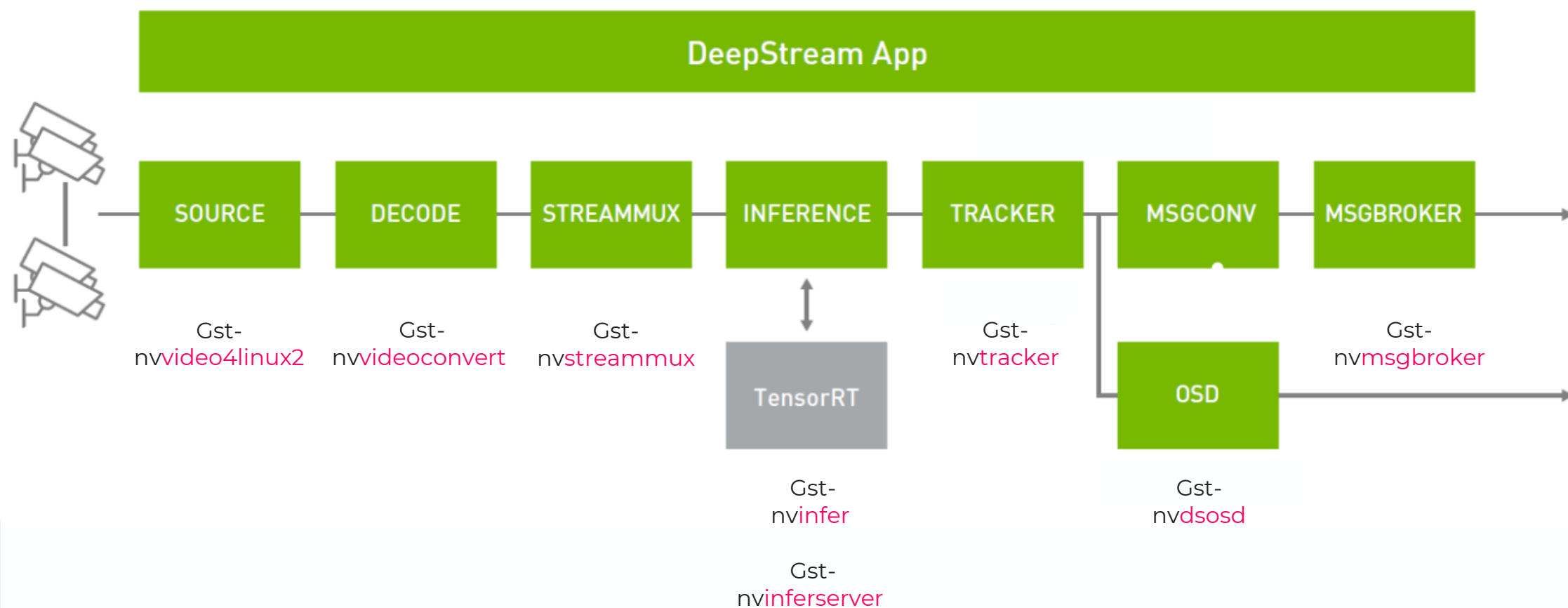COLLECT | DECODE | PRE-PROCESS | TRACK INFERENCE | ENCODE | COMPOSITE | ANALYZE DATA | VISUALIZE

DeepStream SDK

DeepStream SDK

DeepStream SDK

Uncommon terms

Gst-nvstreammux

A MUX functions as a multiple-input, single-output switch.

Gst-nvdsosd

DeepStream OSD (On-Screen Display)

Gst-nvmsgconv

Message converter (from inference metadata to message payload)

DeepStream SDK

Config files

```
3    [property]
4    tlt-encoded-model=resnet34_peoplenet_int8.etlt
5    labelfile-path=labels.txt
6    model-engine-file=resnet34_peoplenet_int8.etlt_b1_gpu0_int8.engine
7
8    [class-attrs-all]
9    nms-iou-threshold=0.5
10   pre-cluster-threshold=0.2
11
12   ## Per class configurations
13   [class-attrs-0]
14   nms-iou-threshold=0.5
15   pre-cluster-threshold=0.4
16
```

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Config files

```
25    [application]
26    enable-perf-measurement=0
27    perf-measurement-interval-sec=5
28
29    [tiled-display]
30    enable=1
31    rows=2
32    columns=2
33    width=1280
34    height=720
```

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Config files

```
36    [source0]
37    enable=1
38    type=1
39    camera-width=1280
40    camera-height=720
41
42    [source1]
43    enable=1
44    type=4
45    uri=rtsp://192.168.1.150/ch0_0.h264
```

```
47    [sink0]
48    enable=1
49    type=5 # 5=Overlay
50
51    [sink1]
52    enable=1
53    type=6 # 6=MsgConvBroker
54    msg-conv-config=./msgconv_sample_config.txt
55    msg-conv-payload-type=1
56    msg-broker-proto-lib=libnvds_azure_edge_proto.so
57    topic=mytopic
```
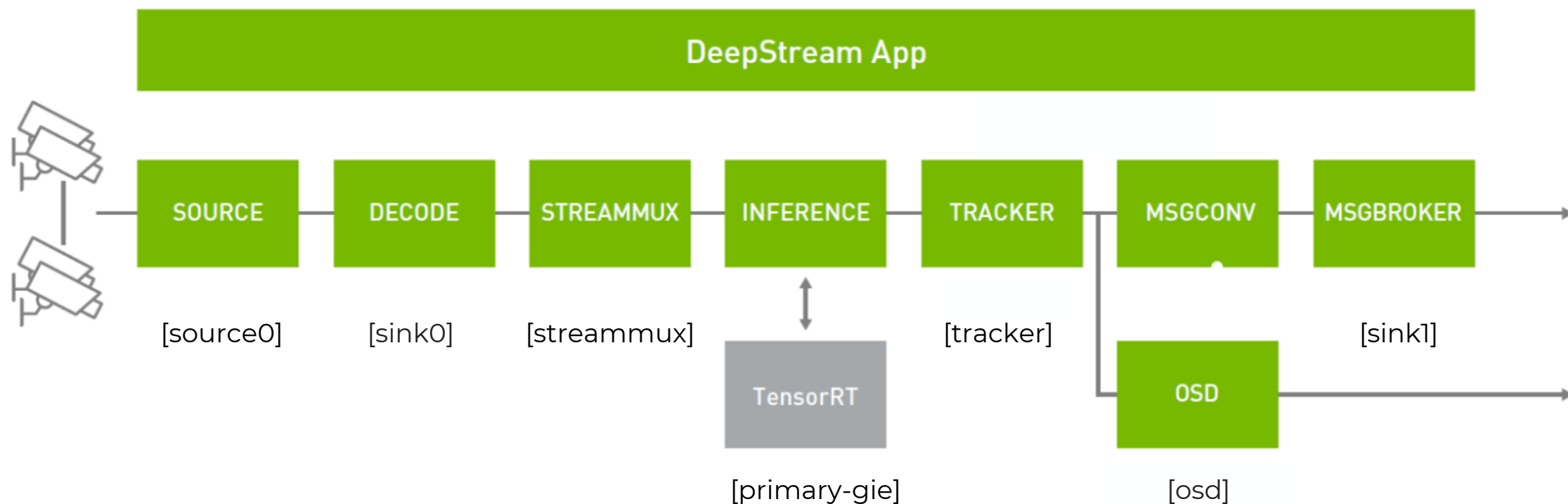
DeepStream SDK

Config files

```
85    [osd]
86    enable=1
87    border-width=2
88    text-size=15
89    text-color=1
90    font=Serif
91
92    [streammux]
93    live-source=1
94    batch-size=4
95    width=1280
96    height=720
```

```
98     [primary-gie]
99     enable=1
100    model-engine-file=resnet10.caffemodel_b8_fp16.engine
101    batch-size=1
102    config-file=config_infer_primary_nano.txt
103
104    [tracker]
105    enable=1
106    tracker-width=480
107    tracker-height=272
```

DeepStream SDK

Thank You