



Interreg IVA Projekt

DeNeWa – Deutsch-Niederlandske Wassertechnologie

Technical solutions of waste water heat recovery

Unterstützt durch / Mede mogelijk gemakkt door:



Ministerie van Economische Zaken,
Landbouw en Innovatie



Niedersächsisches Ministerium
für Wirtschaft, Arbeit und Verkehr

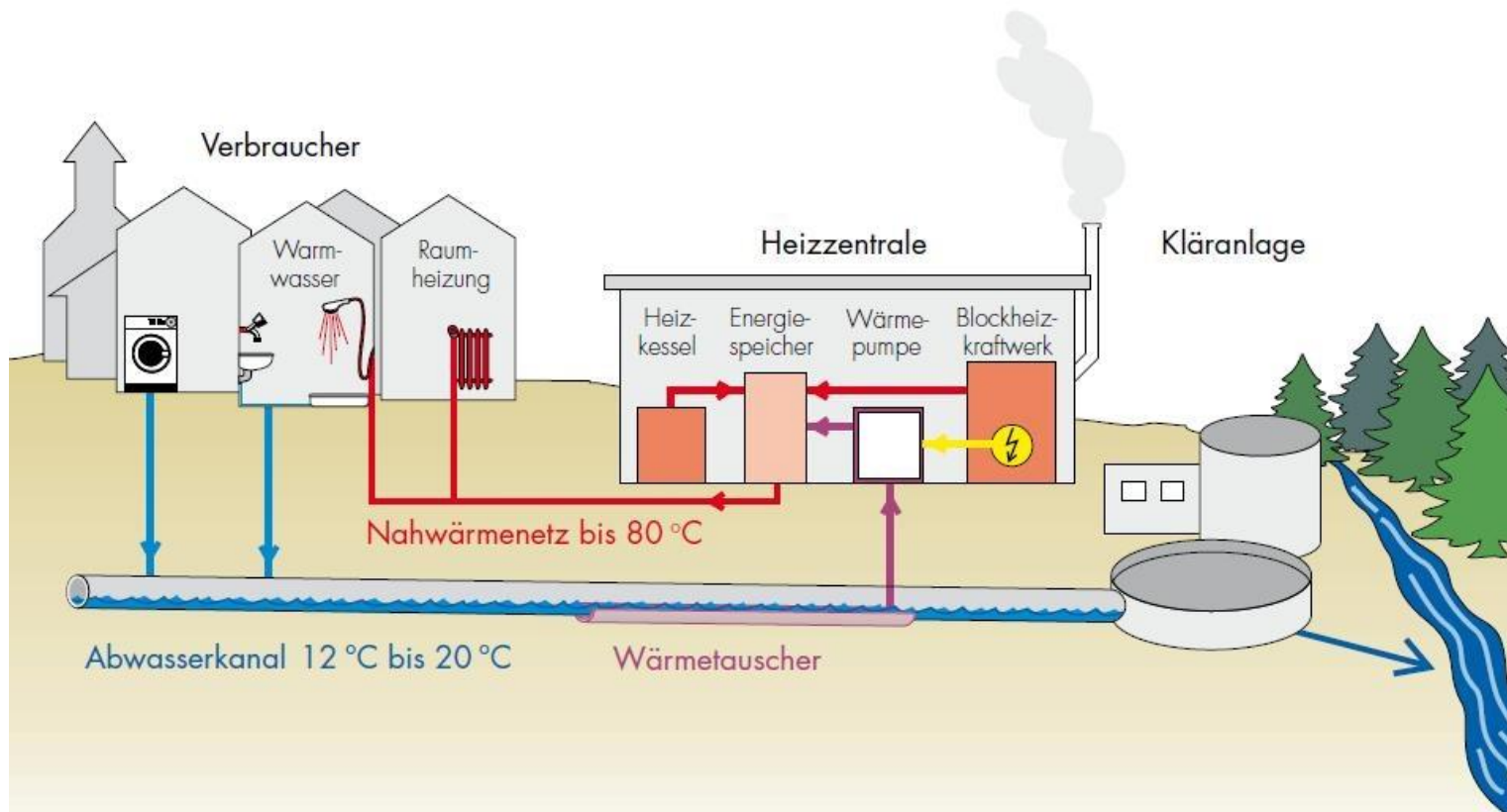


provinsje fryslân
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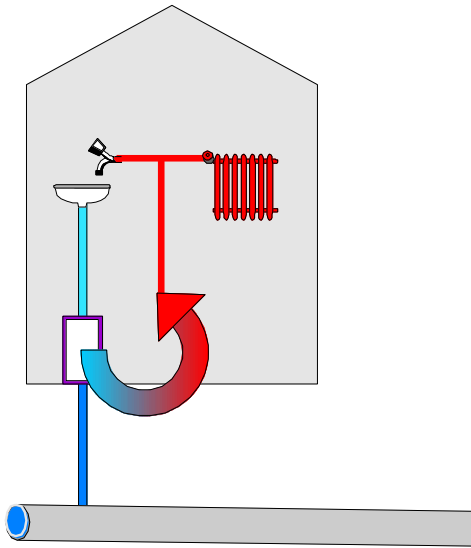
The Principle of Heat Recovery from Wastewater:

Waste-Water heat recovery plant

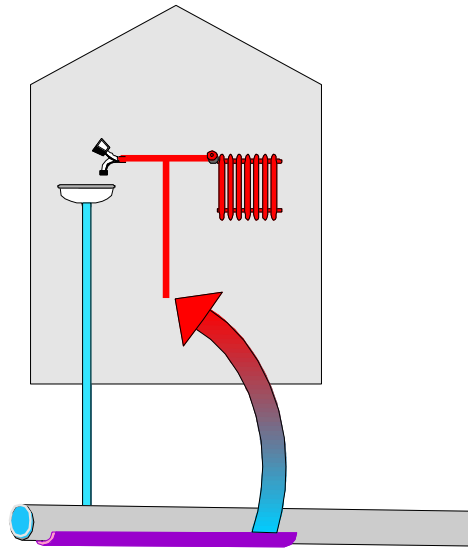


Quelle: Bundesverband Wärmepumpe (BWP)

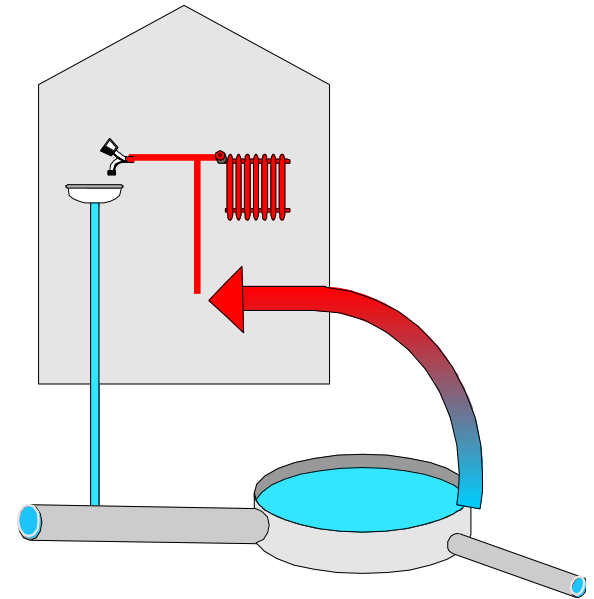
Locations of heat recovery:



Inside the building



Along the sewer system



At the waste-water treatment plant

Quelle: gwf Praxiswissen, C.Ziegler

Inside the building / premises :

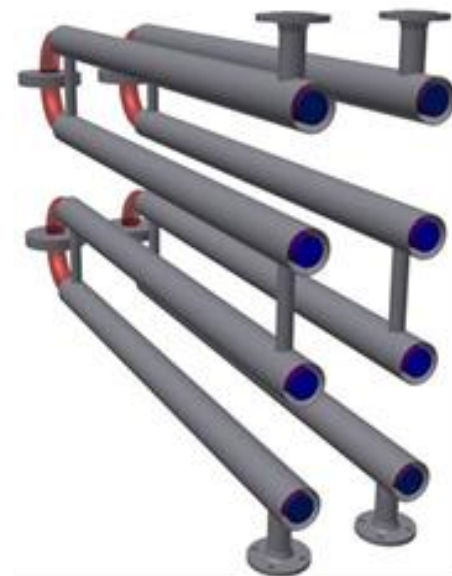
e.g. public swimming pools, industrial cooling systems, hospitals, hotels

DUPUR[®]
Automatic Cleaning Heat Exchanger



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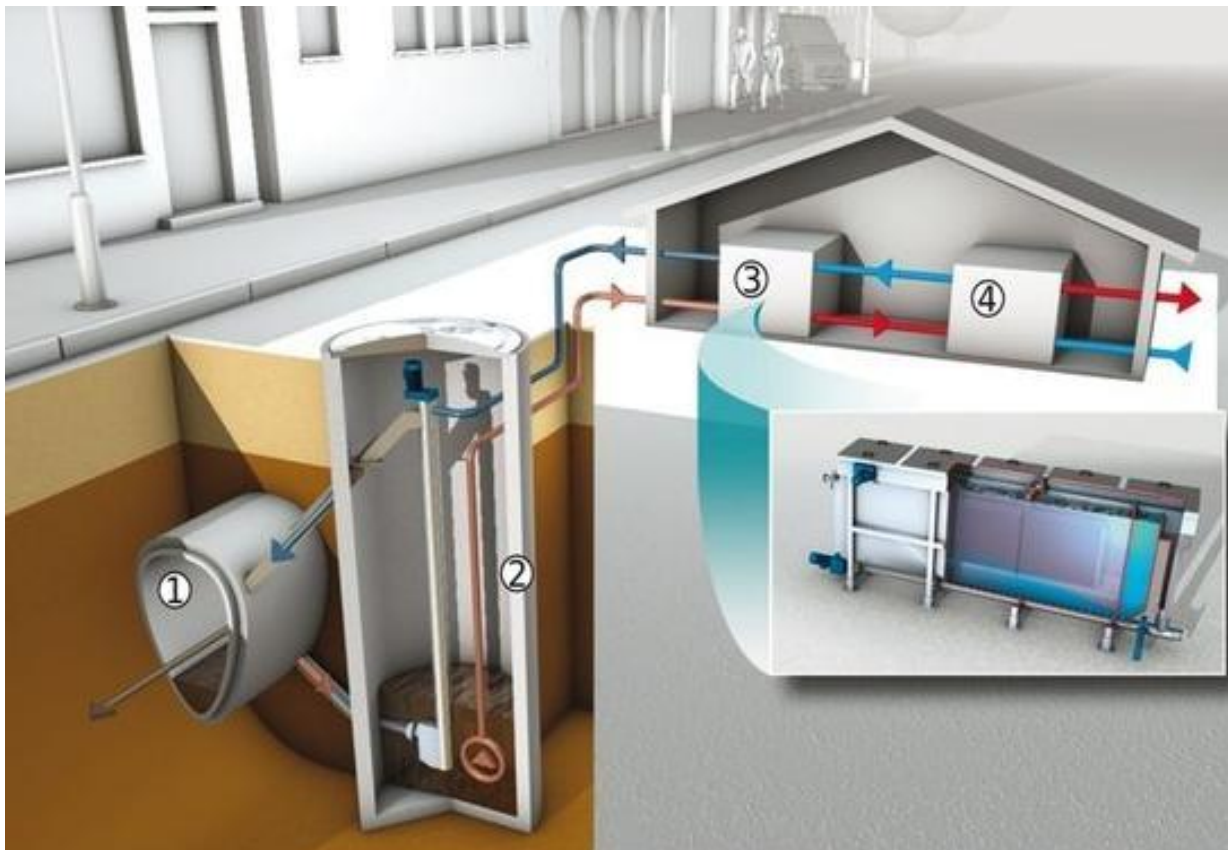
(Quelle: Jaske & Wolf)



(Quelle: KASAG Langnau AG)

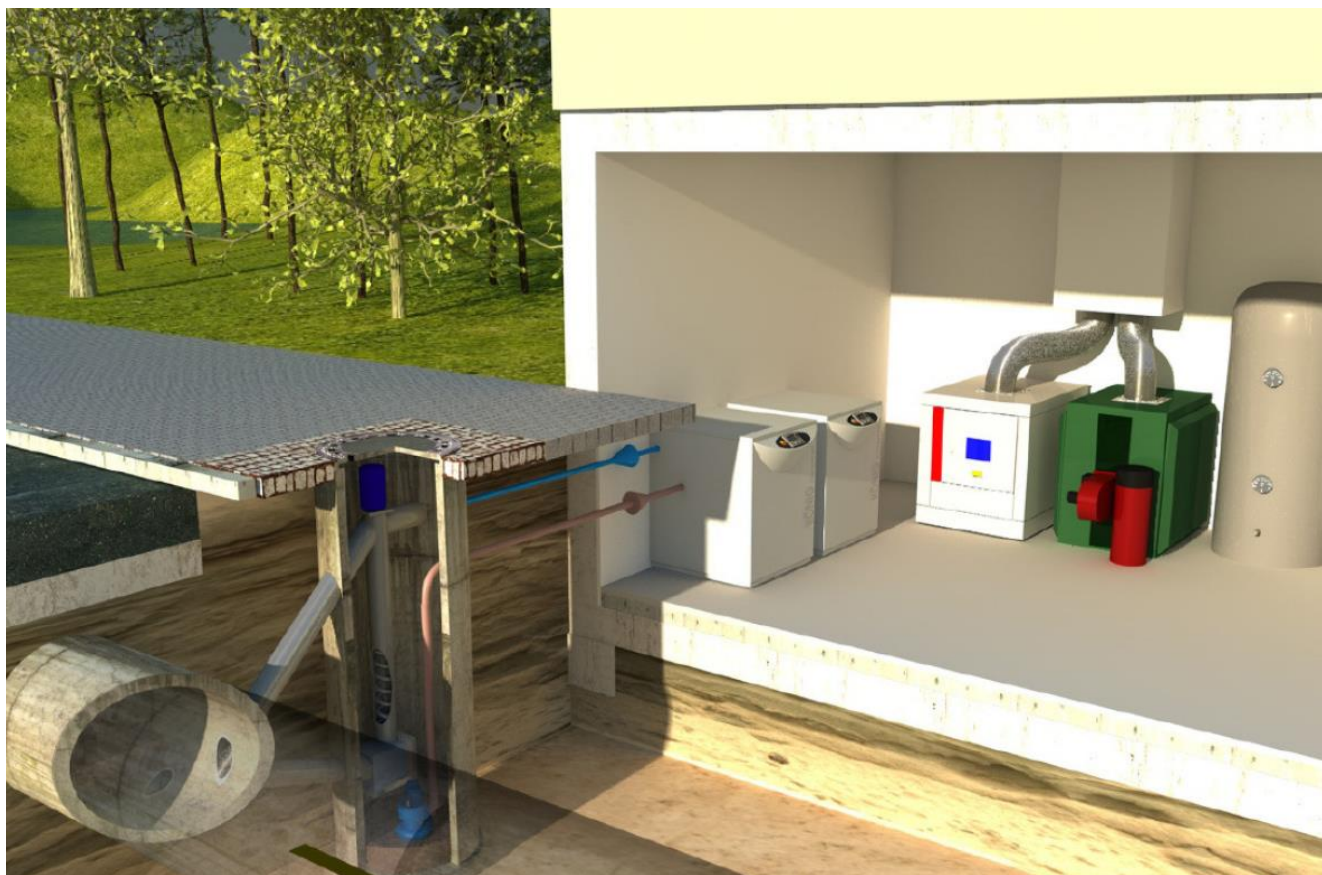
Heatrecovery along the sewer system:

1. Variation: Heat-exchanger outside the sewer



Quelle: Huber SE

Direct vaporisation



Quelle: König Wärmepumpen

2. Variation: Heat-exchanger inside the sewer

Subsequent installations

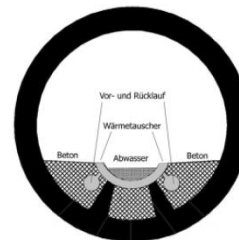


Pipes with inbuilt heat-exchanger :

- Plastic pipes with heat-exchanger

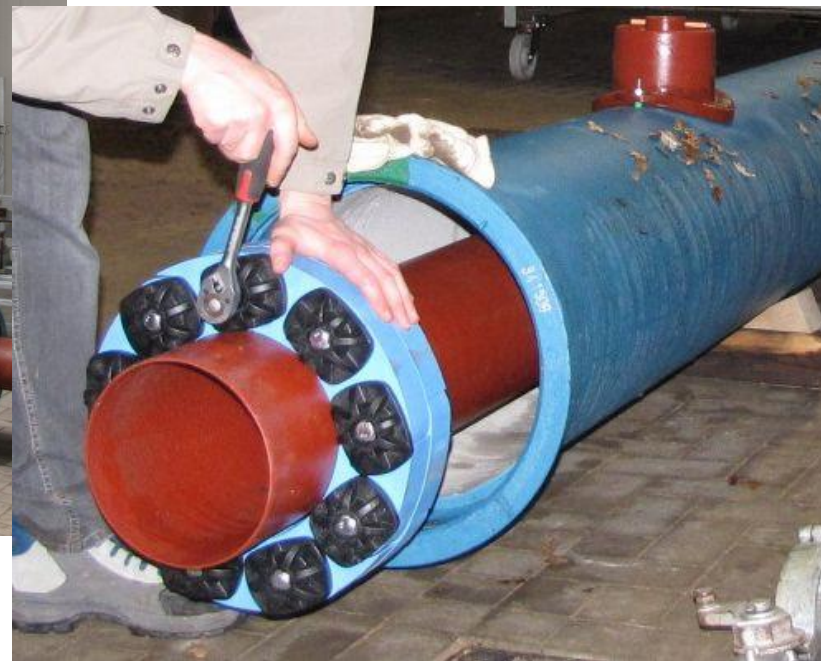


- Concret pipes with heat-exchanger



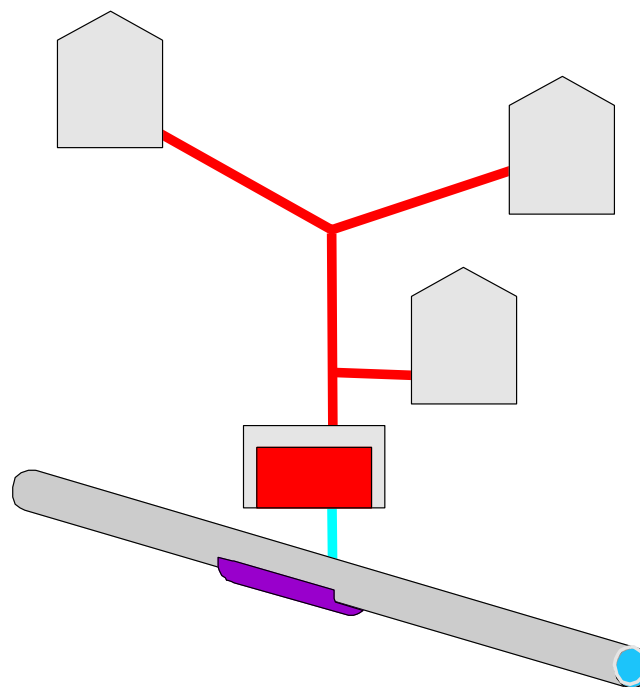
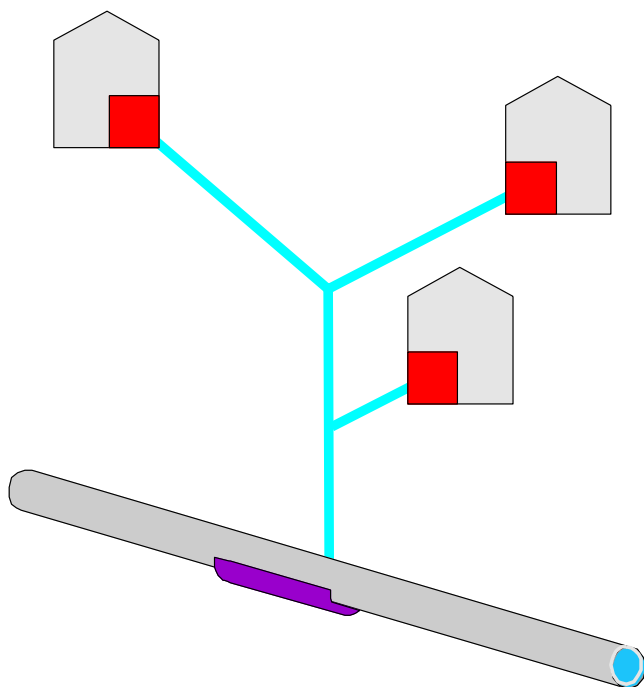
Quelle: z.T. DWA

Pipe in pipe solutions:

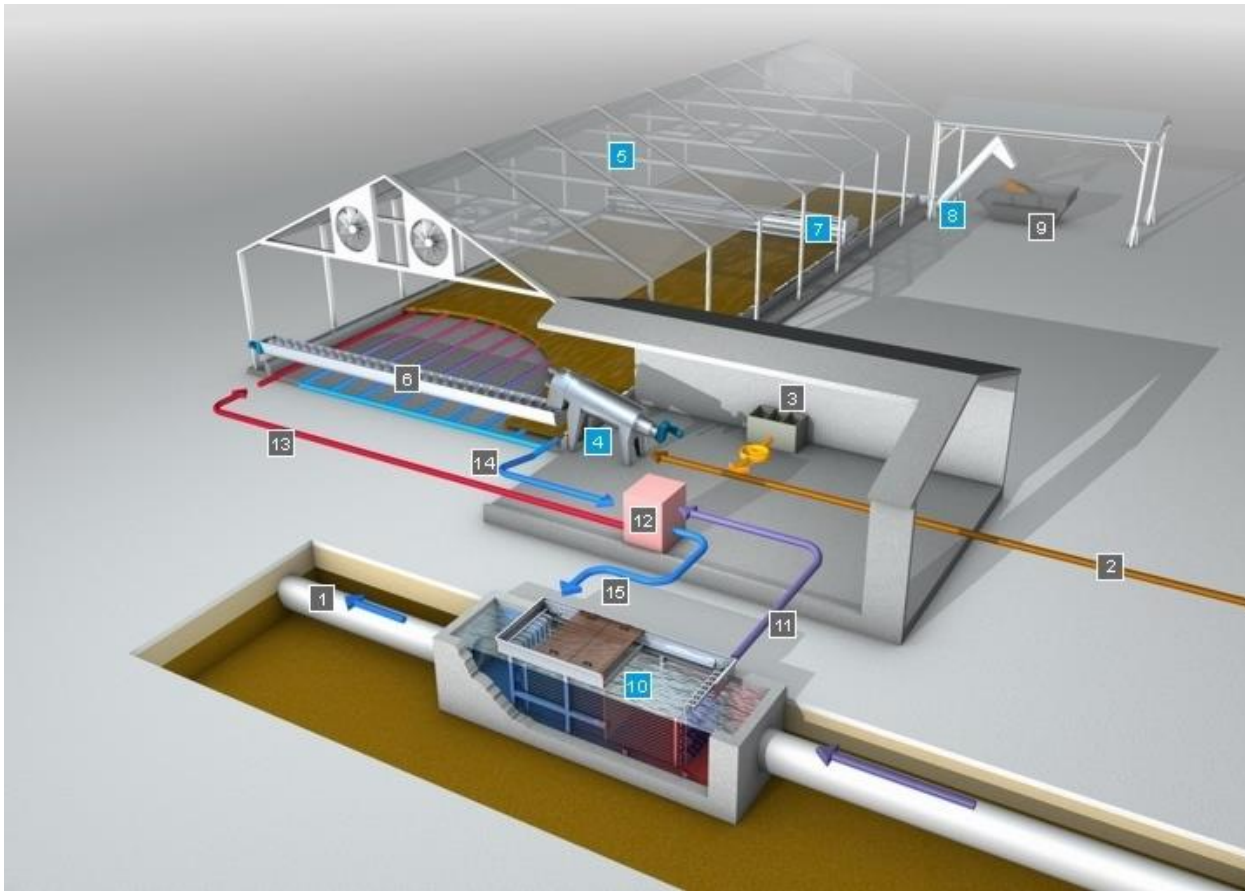


Heat distribution:

- cold local heating system
- warm local heating system



Sludge drying at the waste water treatment plant:



Quelle: Huber SE

Domestic engineering: Heat-pump-technologie



Hartstikke bedankt!

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