



13. Smart-Grid-
Kongress BW

04.12.2024

Philipp Nagel

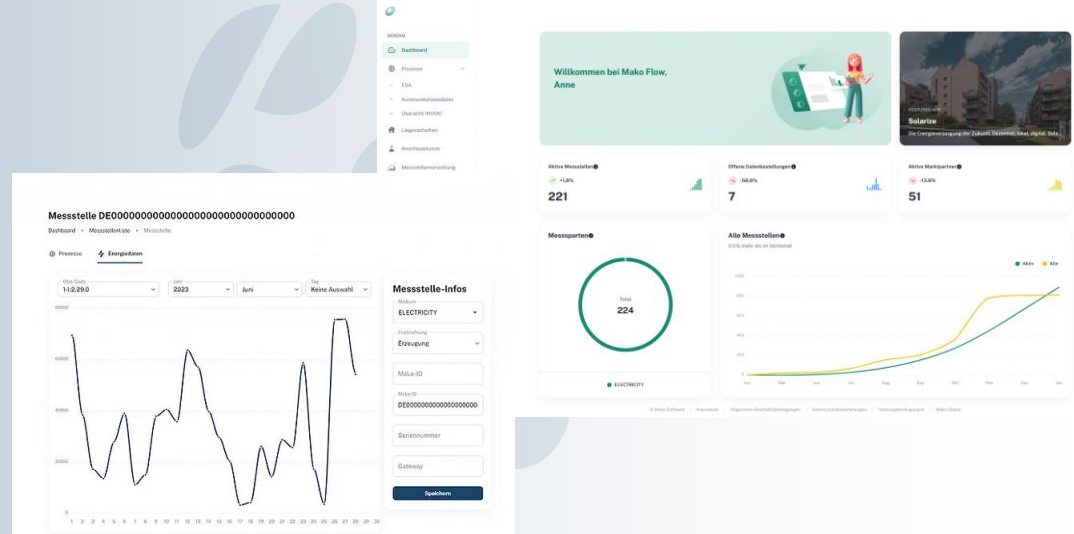


Consulting & BPO-Services

- Consulting on topics related to Smart-Metering and energy market communication
- Business-process-outsourcing for market processes
- Decentralized energy sharing

MakoFlow

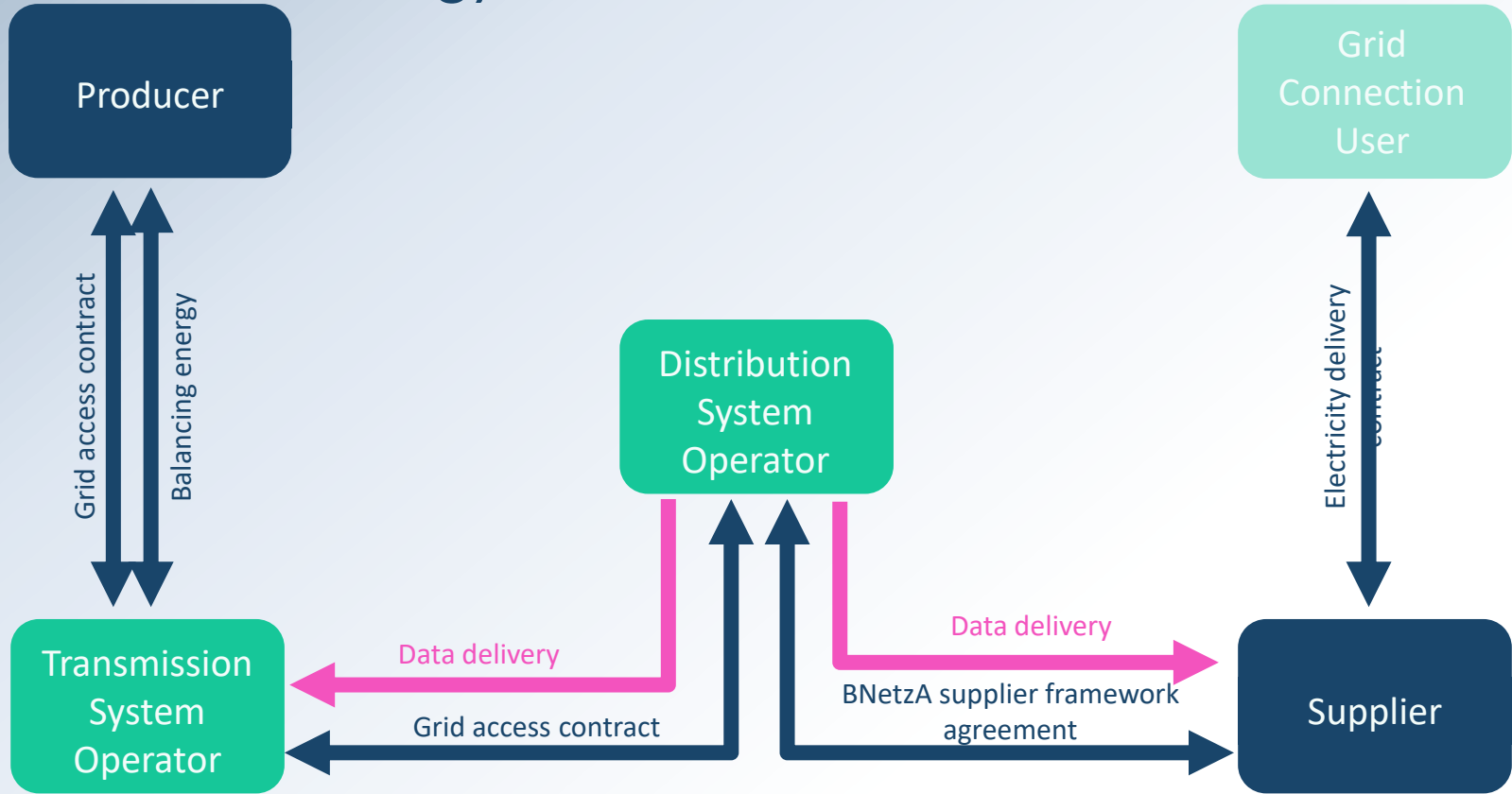
- Data platform
- energy market communication
- Focus on MSB and ESA



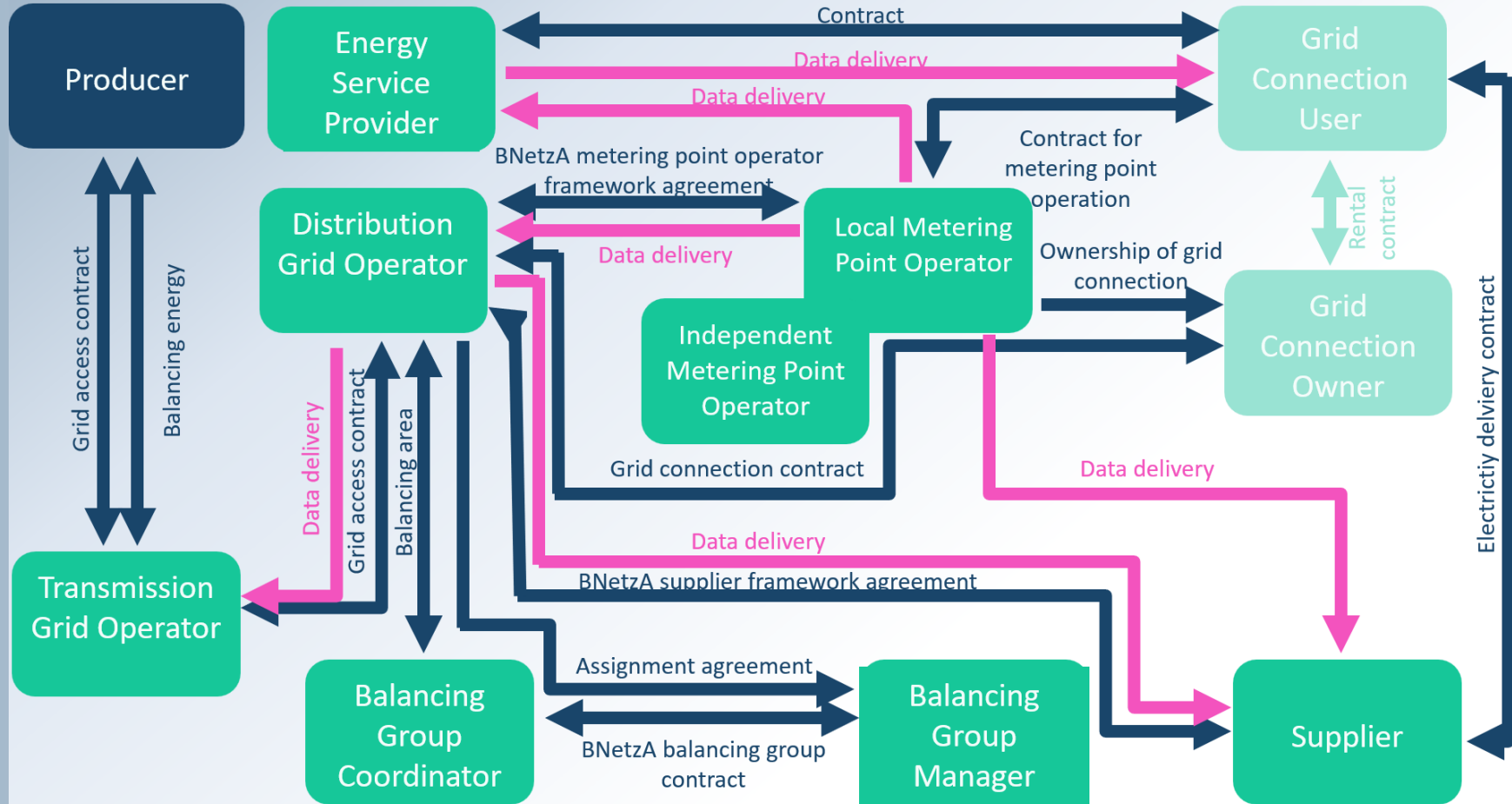
Access to metered data in the German energy market

- The energy market yesterday and today
- Market roles in the energy market
- Access to metered data
- Market role Energy service provider
- Outlook

Energy market before liberalization



Energy market today



bdew **edi@energy.**
Energie. Wasser. Leben.

STARTSEITE RECHTLICHES DOKUMENTE FRAGEN ANMELDUNG

Aktuell gültige Dokumente + nach Gruppierung Listenansicht

Titel	Gültig von	Gültig bis	
API-Webdienste			
API-Webdienste zur prozessualen Abwicklung von Steuerungshandlungen in Verbindung mit intelligenten Messsystemen (IMS) - Universalbestellprozess 1.0.0	03.04.2024	Offen	↓
Berichte			
IFTSTA MIG 2.0e	01.10.2023	03.04.2025	↓
IFTSTA MIG - informatorische Lesefassung 2.0e	01.10.2023	03.04.2025	↓
IFTSTA MIG 2.0e - außerordentliche Veröffentlichung	11.03.2024	03.04.2025	↓
IFTSTA MIG - Informatorische Lesefassung 2.0e - außerordentliche	BGM+10+GZNNBZAXW2H8HY 'DTM+137:202409051748?+		
IFTSTA AHB 2.0e - außerordentliche Veröffentlichung	00:303 'RFF+Z13:37006 'RFF+AGK:::1 'NAD+MR+9904629000006:::293 'NAD+MS+9982231000002:::293 'CTA+IC++Mako365		
IFTSTA AHB - informatorische Lesefassung 2.0e - außerordentliche	GmbH 'COM+philipp.nage1@mako365.com:EM'COM?+4915114367551:TE 'UNS+D 'NAD+Z36+++Mako365 GmbH:::Z02		
INSRPT MIG 1.1a - außerordentliche Veröffentlichung	+Dynamostr.:::3+Mannheim++68165		
INSRPT MIG - informatorische Lesefassung 1.1a - außerordentliche	+DE 'FII+BK+DE25600501010405404122:Mako365		
INSRPT AHB 1.1g - außerordentliche Veröffentlichung	GmbH+SOLADEST600:::Landesbank Baden-Württemberg/Baden-		
INSRPT AHB - informatorische Lesefassung 1.1g - außerordentliche	Württembergische Bank 'FTX+Z13		
Bestellvorgang	+++http?://mako365.com 'RFF+VA:DE340427326 'CCI+Z40 'DTM+Z36:09		
ORDCHG MIG 1.1 - außerordentliche Veröffentlichung	001700:501 'DTM+Z37:09001700:501 'DTM+Z38:09001700:501 'DTM+Z39		
	:09001700:501 'DTM+Z40:09001700:501 'DTM+Z41:12001300:501 'NAD+		
	Z10+++Mako365 GmbH:::Z02+Dynamostr.:::3+Mannheim++68165		
	+DE 'CTA+IC++EDIFACT 'COM+philipp.nage1@mako365.com:EM'COM?+4915114367551:TE 'NAD+Z11+++Mako365 GmbH:::Z02		
	+Dynamostr.:::3+Mannheim++68165		
	+DE 'CTA+IC++CONTRACT 'COM+philipp.nage1@mako365.com:EM'COM?+4915114367551:TE 'NAD+Z11+++Mako365 GmbH:::Z02		

PARTIN__9982231000002_9904629000006_20240905_ X
GZNNFXLVR7TLQM.txt

```
[
  {
    documentNumber: "GZNNBZAXW2H8HY"
    documentDate: "2024-09-05T19:48:00+02:00"
    partinClass: "PARTNER_DATA"
    isAvailable: true
    version: 1
    sender: {
      bdewNumber: "9982231000002"
      role: "ESA"
      contact: {
        firmName: "Mako365 GmbH"
        internet: "http://mako365.com"
        position: "GENERAL"
        availMon: "09001700"
        availTue: "09001700"
        availWed: "09001700"
        availThu: "09001700"
        availFri: "09001700"
        notAvail: "12001300"
        zip: "68165"
        city: "Mannheim"
        street: "Dynamostr."
        house: "3"
        country: "DE"
      }
    }
    senderContact: {
      firstName: "Mako365 GmbH"
    }
  }
]
```

General trends data access

More demand for metered data:

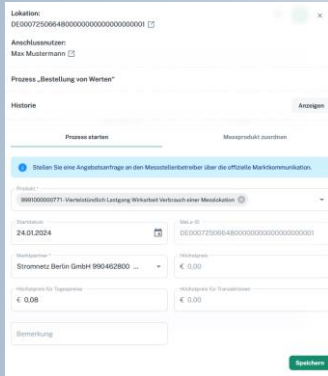
- Sustainability reporting
- Dynamic prices
- Energy efficiency
- etc.

Better rights to access own data:

- EU Data Act
- Consumer = data owner
- EU Electricity Directive 2019/944 (Art 23. 5)
- free access to own consumption data
- Commission Implementing Regulation (EU) 2023/1162 on interoperability requirements and non-discriminatory and transparent procedures for access to metering and consumption data
- Role model/ reference model

User Flow ESA Data Ordering

1. ESA →
2. Upload/ API/ Frontend in MaKo-System →
3. Software „translates“ into EDIFACT →
4. EDIFACT transfer via AS4/encrypted E-Mail →
5. EDIFACT gets processed from receiving ERP-System of MSB

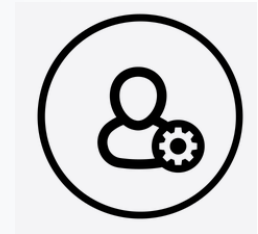



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    serviceBegin: "2023-01-01T00:00+0100"
    sender: {
      bdeNumber: "9982231000002"
      contact: {
        firstName: "DATA"
        email: "philipp.nagel@mako365.com"
      }
    }
    recipient: {
      bdeNumber: "9979383000006"
    }
    location: {
      locationId: "DE0001015455000000102120000000329"
      locationType: "MEASUREMENT_LOCATION"
    }
    requestPositions: [
      @: {
        positionNumber: 1
        positionType: "MEASUREMENT_LOCATION_PRODUCT"
        articleNumber: "9991000000771"
        articleType: "MEASUREMENT_PRODUCT"
        independentChangeOptionRequired: false
      }
    ]
  }
]
    
```

Ordering of metering product →



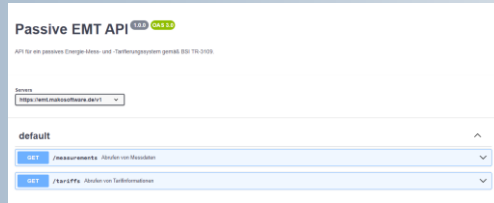
Flow Data Delivery from iMS

1. SMGW

2. pEMT Endpoint

3. Decryption and Processing

4. Further processing in data management software and other consumers (e.g. AI application)



- Lack of network connectivity
- Proprietary VPNs

- Rather complex/academic cryptography
- Hardware security modules making cloud-native deployments tricky



Outlook

Better Standardization

- Improved GWA-change processes expected in 2026
- Higher eSIM/eUICC penetration to allow seamless connections and transfers on a cellular network level

Further European Integration

- Implementing regulation defines requirements and roles for European-wide data access
- National reference model need to be implemented by Summer 2026

Access to data rights in other industries

- Gas, district heating, water etc.

Key take aways

- Fragmented structure of actors in the German market – decentralized data holding
- Everybody can register to participate in the market BUT
 - Standardized formats and processes – high entry barriers
- Market communication system comes under stress due to
 - sector coupling (additional needs and actors)
 - demand for real-time data
 - First BDEW-Web-API tested to transmit control signals

Stay in touch



Ready for the Energy market of tomorrow



Philipp Nagel

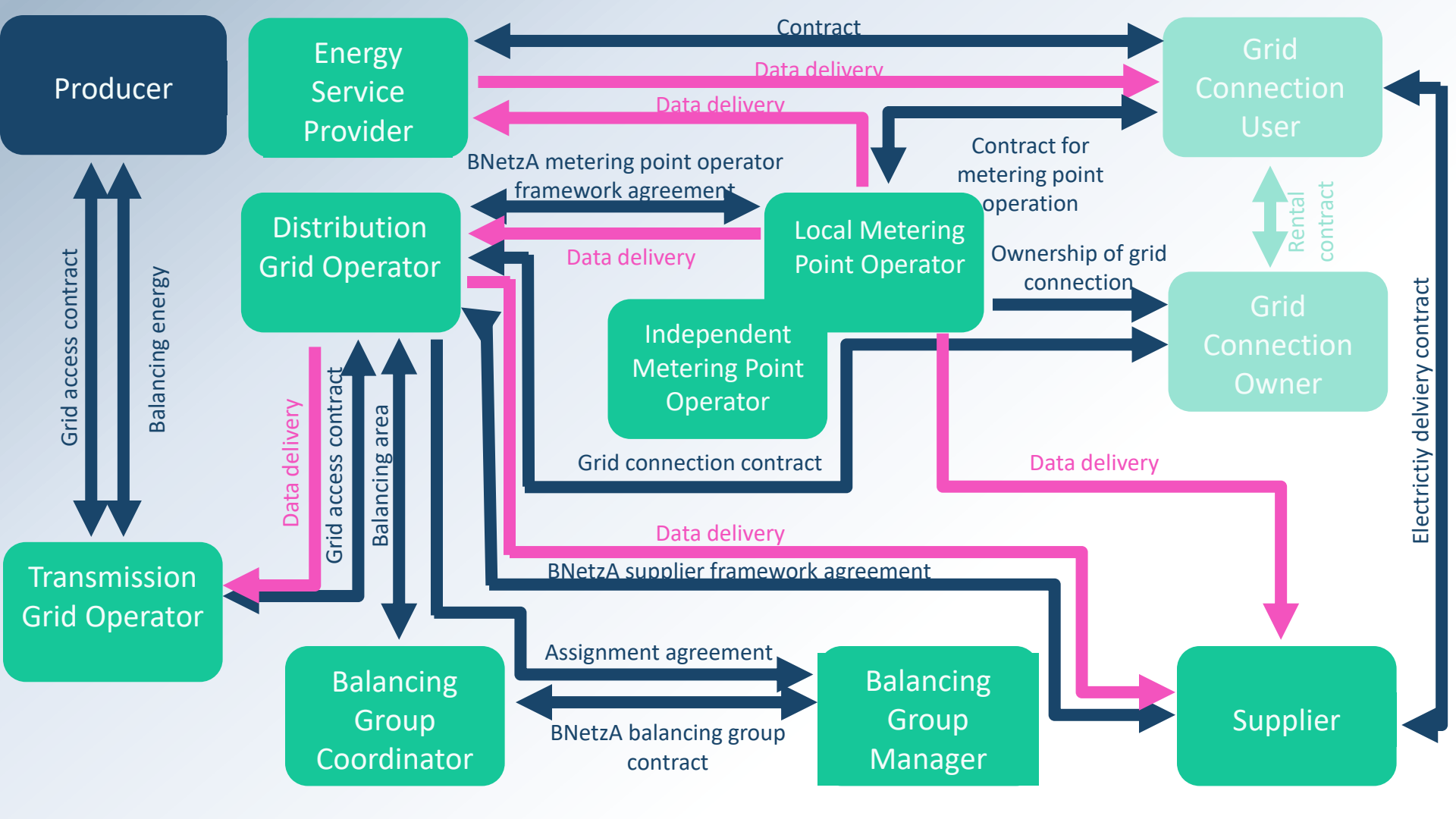
Head of Product

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Back-up





Zeitleiste – Einführung Rolle Energieserviceanbieter

Gesetzliche Ebene

Beginn Liberalisierung
Energemarkt

Messstellen-
betriebsgesetz
eingeführt

GNDEW verabschiedet –
Einführung Standard-
und Zusatzleistungen

Novelle im
Bundestag
verabschiedet –
ESA eigene
Zusatzleistung

Veröffentlichung
im
Bundesgesetzblatt

1998

2016

Dez 2020

Okt 2022

Mai 2023

Juli 2023

Sep 2023

Nov 2023

Dez 2023

Jan 2024

Beginn
Marktkommunikation

BK-20-160 –
Einführung
ESA-Rolle

ESA-Rolle
eingeführt

1. ESA-Forum
Unzufriedenheit
mit Massengeschäfts-
tauglichkeit

BNetzA fragt bei
MSB
zur Umsetzung
ESA-Rolle nach

>100 ESA bei
BDEW registriert

Marktkommunikation