Lessons learned from building Poland's Coal Mining Database - energy.instrat.pl

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UNECE Workshop:
Methane in the Context of the Transition of the Coal Sector

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President of the Board
Instrat Foundation

Poland ICE-CMM
Operating under auspices of the UNECE Group of Experts on Coal Mine Methane

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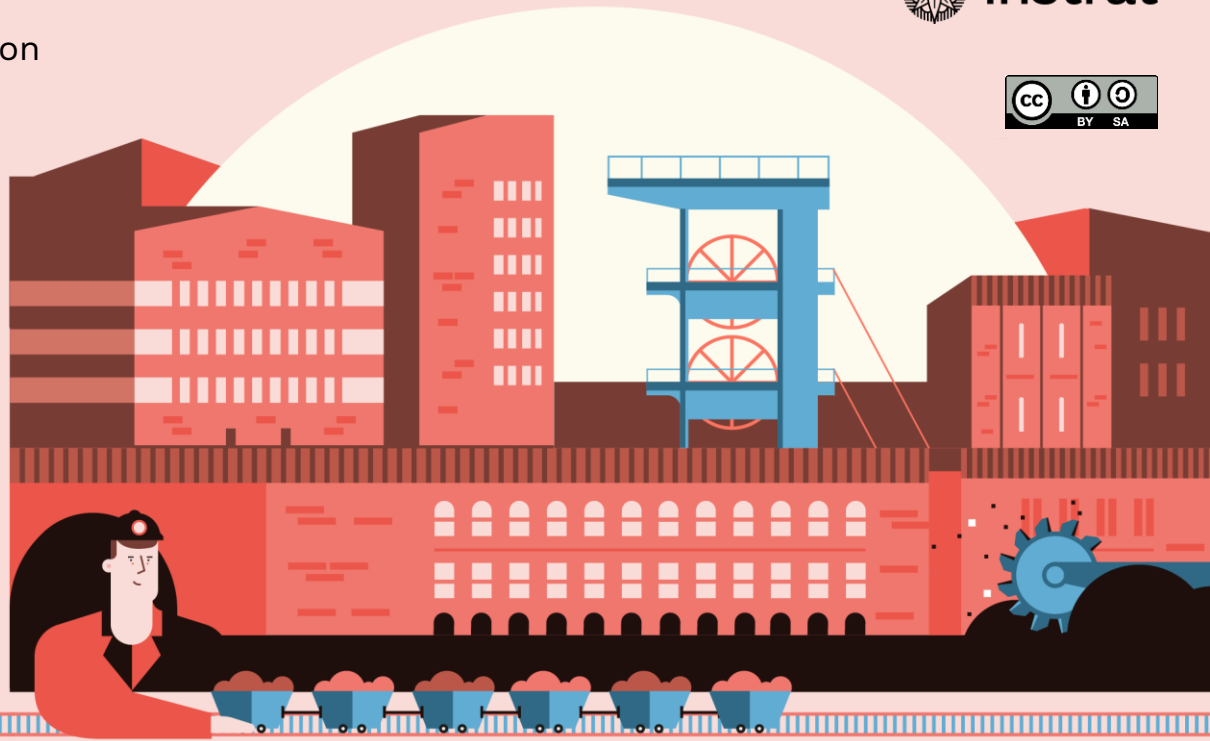

AGENDA

- How did we approach the project?
- What did we find out?
- How can you use our platform?

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Project overview

Motivation & goal

Provide decision makers & stakeholders with **open access high quality data** on statistics on the Polish coal mining sector

Tackle data monopolies & **increase participation** in the planning of just transition

Prepare for a **coal phase-out** and assure sufficient funding

Challenges

Poor **data quality**: discrepancies & data gaps

Lack of transparency and standardization of reporting to different authorities

Data behind **paywalls** - legal barriers

Neglected data spheres: environment & climate, socioeconomic data

Plans

Longer time series (up to ‘90s)

More interactive data visualisations (Flourish)

Geographical expansion

Financials & state aid reporting

Environmental data: water aspects of coal mining operations, methane emissions

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Data sources

National Geological Institute
PIG-PIB

Annual report: extraction, reserves
MIDAS: basic geographical data, technical parameters, water

deposit level

KOBiZE - Polish GHG Emission Accounting Authority

National database / E-PRTR: ETS sector emissions - CO2, methane etc.

company & unit level

Company financial reports
PGG, JSW, Tauron, PGE GiEK, ZEPAK etc.

Annual reports: financials, extraction, employment, public sector contributions, announced retirement dates

company & unit level

Others:
Public Aid Data Sharing System (UOKIK - Office of Competition and Consumer Protection); Mining Concessions Database (Ministry of Climate); Press Releases

Open (energy) data philosophy

Background

- ambitious climate policy targets require broad mobilisation of different stakeholders from outside of core energy sector

↓

- increasing need for granular and **user-friendly data** to monitor progress in delivering of the targets

↓

- wide critics of blackbox modelling tools favouring large-scale energy sources ⇒ OpenMod Initiative

↓

- social inclusion and participatory approach

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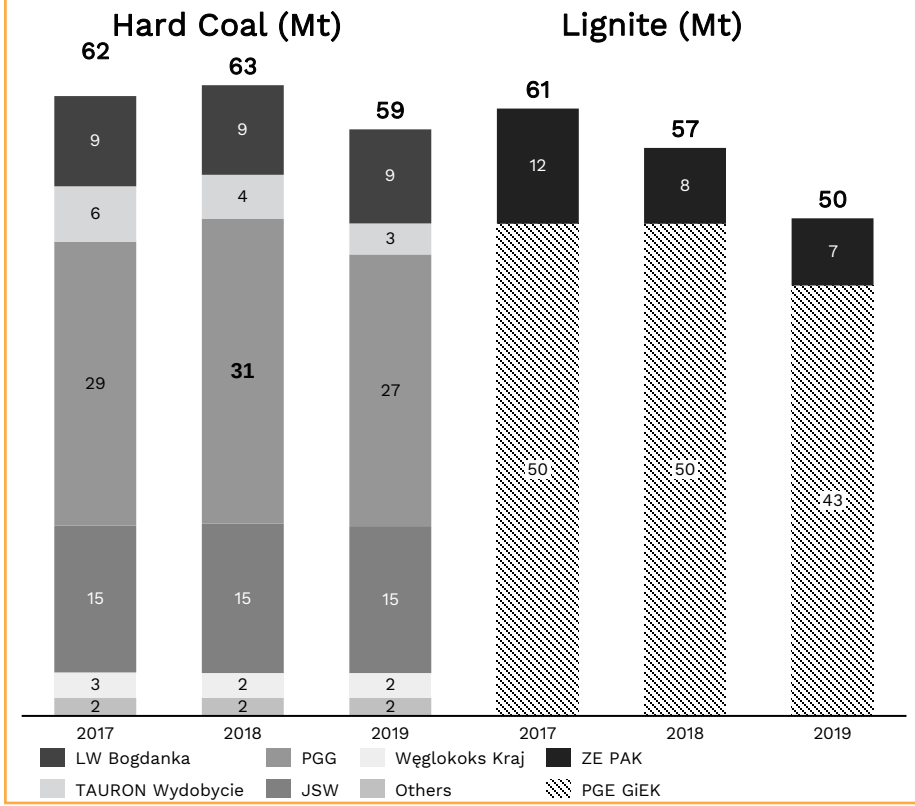
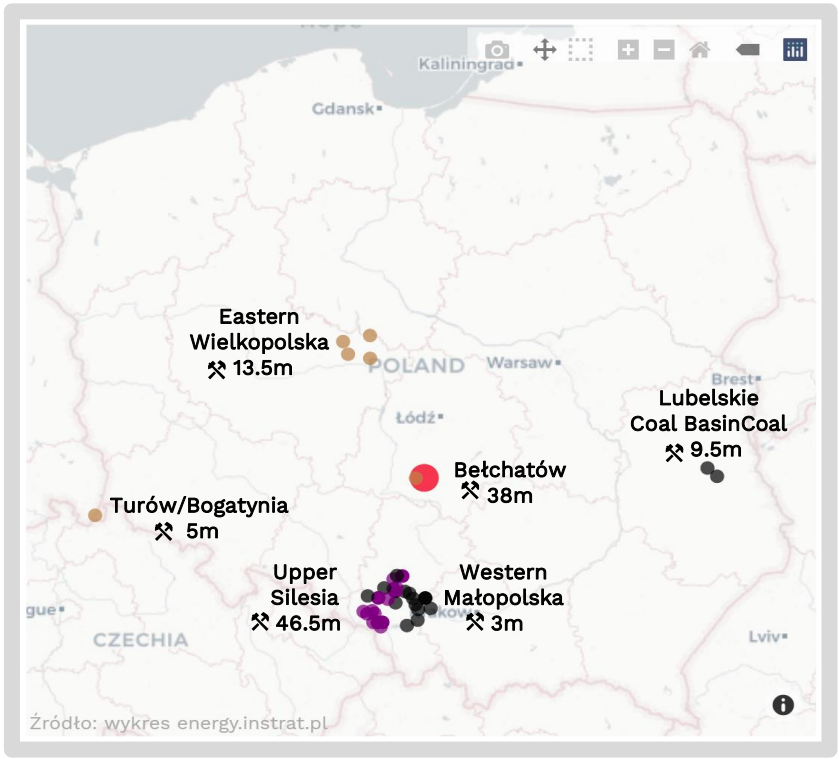
- **simplify complexity**: collect, compile and synchronize various data sources
- **use open licenses** for data and code (CC-BY-NC)

Extraction





Source: energy.instrat.pl/coal_mining_map
Methodology note: blog.energy.instrat.pl/en/mining-en
Company data as of 2019

Employment (2019)

Key Insights

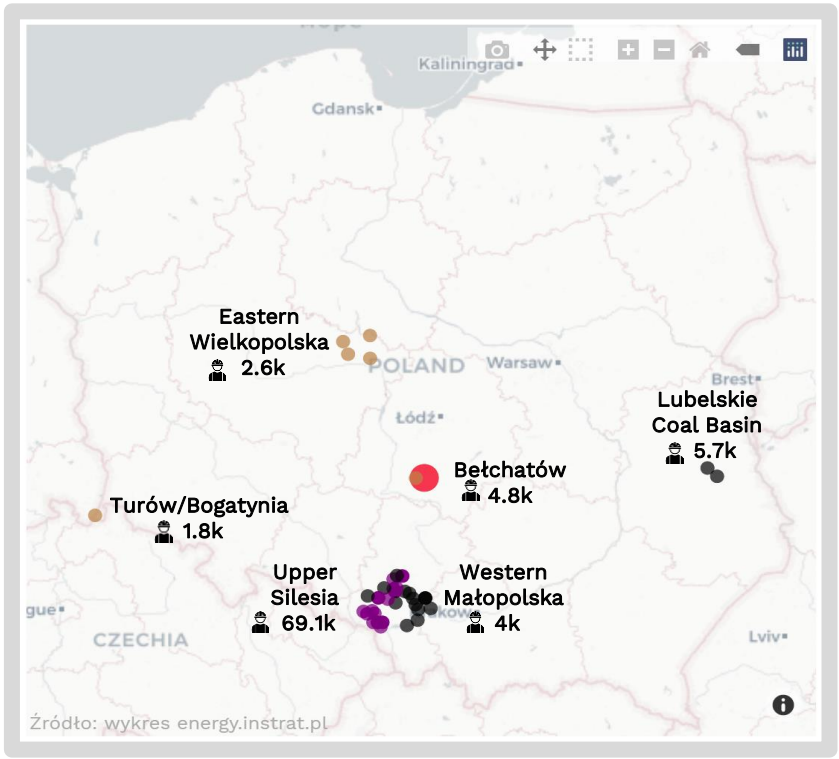
86.5k people employed in all coal mines incl.:

89% at hard coal mining sites

11% at lignite mining sites

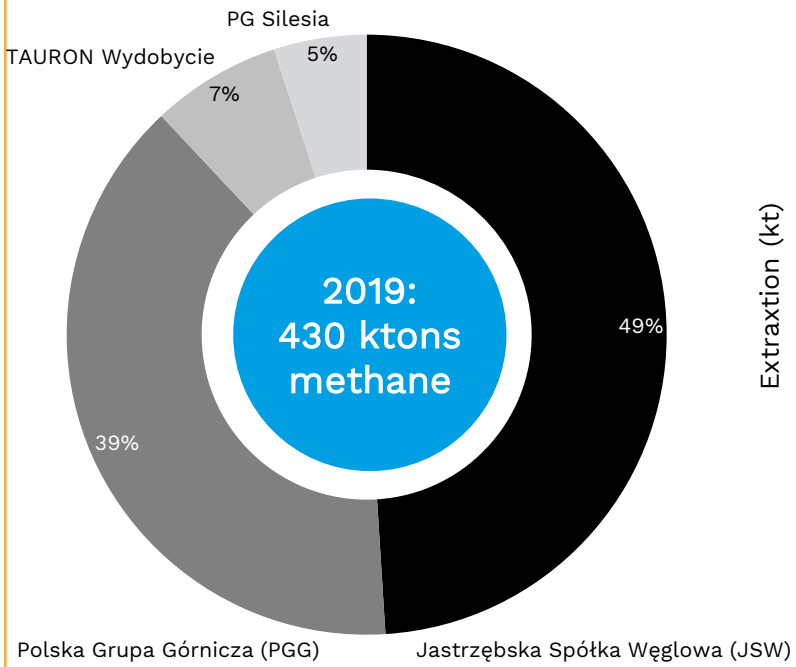
38.3k employees at sites of the largest employer in the sector - Polish Mining Group (PGG)

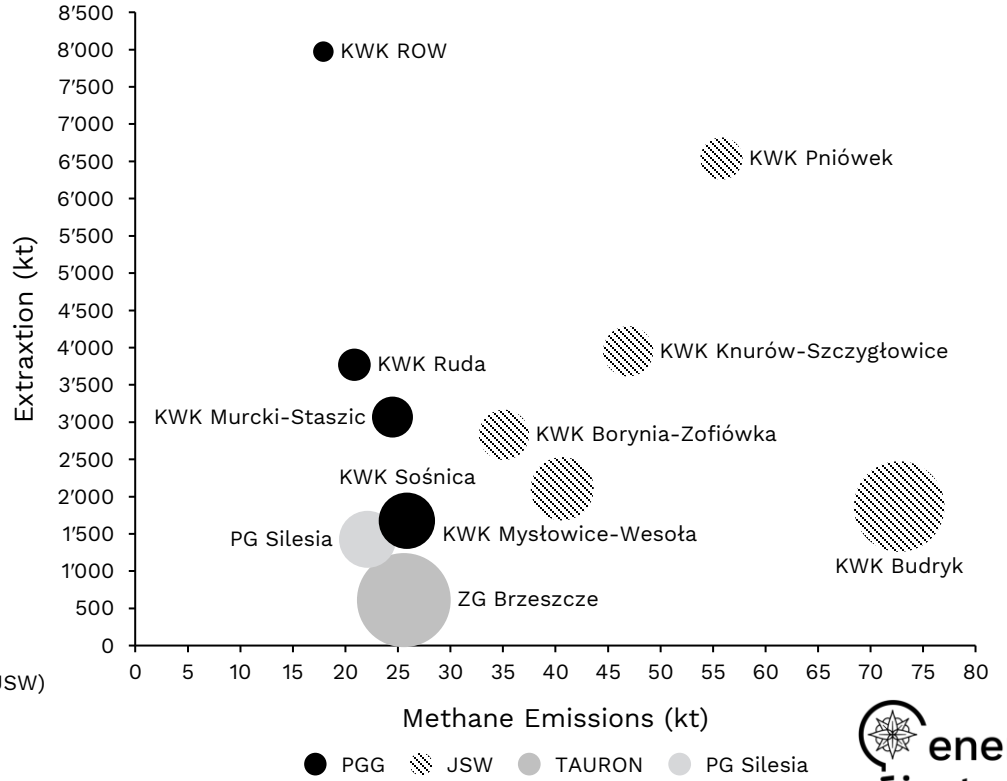
ca. ⅕ miners work outside of the Upper Silesia



Source: energy.instrat.pl/coal_mining_map
Methodology note: blog.energy.instrat.pl/en/mining-en
Company data as of 2019

Methane emissions from operating coal mines (2019)





Source: energy.instrat.pl/coal_mining_map
Methodology note: blog.energy.instrat.pl/en/mining-en
PIG and KOBIZE data as of 2019

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Key Insights

- JSW responsible for almost half of the Poland's methane emissions from active coal mines
- ZG Brzeszcze (TAURON Wydobycie) is the most methane-intensive site per 1 ton of coal produced
- Numerous closed mines (SRK) emitting methane under SRK

Next Steps

- Longer time series - as early as '90s
- Deposits under research and decommissioned mines
- Granular approach to environmental data

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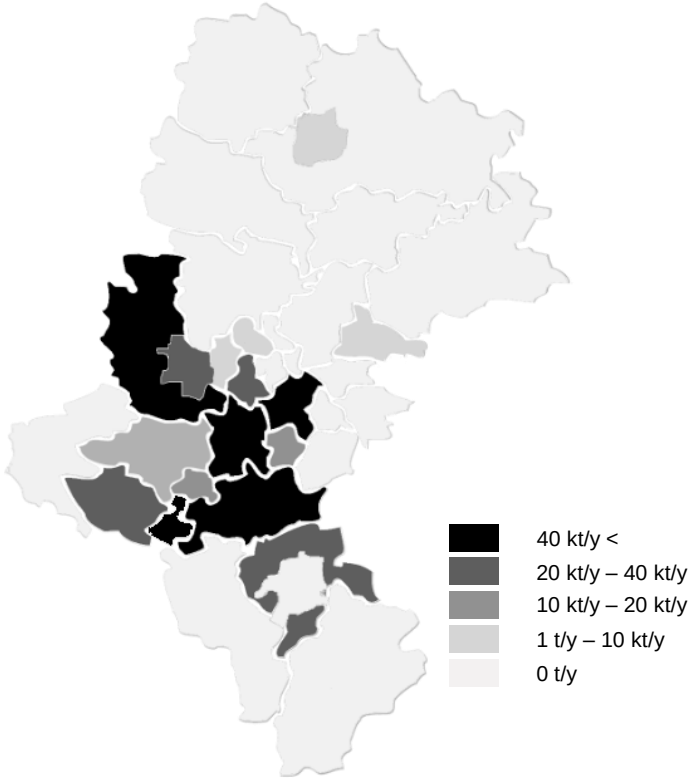
Methane emissions in Upper Silesia (2020)



Source: GUS (Statistics Poland)
Absolute emissions in tonnes per year

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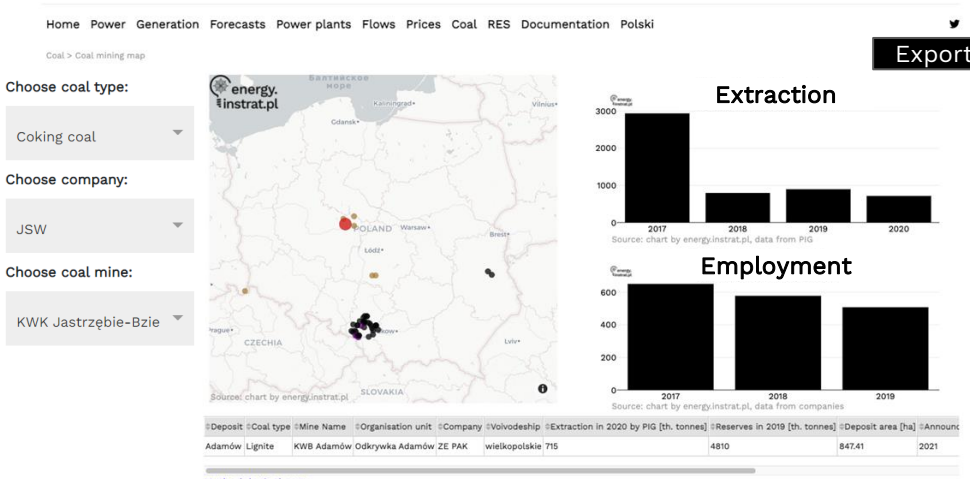
How to use our dataset?

⇒ energy.instrat.pl/coal_mining_map



Export

⇒ Methodology note

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How to use our dataset?

⇒ energy.instrat.pl/coal_mining_map

	E	F	G	H	I	J	K	Q	R	S	T	U	V	AC	AD
1	Powiat	Gmina	Przedsiębiorstwo	Typ węgla	Nazwa kopalni	Jednostka organiza	Złoże	Wydobycie (tys. ton) 2015 wg PIG	Wydobycie (tys. ton) 2016 wg PIG	Wydobycie (tys. ton) 2017 wg PIG	Wydobycie (tys. ton) 2018 wg PIG	Wydobycie (tys. ton) 2019 wg PIG	Wydobycie (tys. ton) 2020 wg PIG	Zatrudnienie (liczba zatrudnionych) 2017	Zatrudnienie (liczba zatrudnionych) 2018
2	District	Community	Operator	Coal type	Mine Name	Unit	Deposit	Extraction (th. tonnes) by PIG	Extraction (th. tonnes) by PIG	Extraction (th. tonnes) by PIG	Extraction (th. tonnes) by PIG	Extraction (th. tonnes) by PIG	Extraction (th. tonnes) by PIG	Employment (number of employees) 2017	Employment (number of employees) 2018
13	chrzanowski, oświęc	Libiąż, Chełmek, Oś	TAURON Wydobycie	WK-E	ZG Janina		Janina	1 921	1 797	1 985	1 322	1 275	1 916	2 294	2 335
14	oświęcimski - woj. m	Brzeszcze, Oświęcir	TAURON Wydobycie	WK-E	ZG Brzeszcze		Brzeszcze	534	922	955	1 010	612	1 075	1 461	1 533
15	M. Mysłowice, M. Ja	Mysłowice, Jaworzn	TAURON Wydobycie	WK-E	ZG Sobieski		Brzezinka			1		27	66		
16	M. Jaworzno - woj. ś	Jaworzno - woj. śląs	TAURON Wydobycie	WK-E	ZG Sobieski		Byczyna I	1 128	942	1 210	1 574	215	571	2 591	2 596
17	M. Jaworzno - woj. ś	Jaworzno - woj. śląs	TAURON Wydobycie	WK-E	ZG Sobieski		Jaworzno	1 057	1 274	713	507	1 054	361		
18	M. Katowice	Katowice	PGG	WK-E	KWK Wujek		Wujek	925	1 057					2 417	1 454
19	M. Katowice, M. Mys	Katowice, Mysłowice	PGG	WK-E	KWK Murcki-Staszic	Ruch Staszic	Staszic	2 557	3 508	2 720	2 937	3 066	1 896		
20	M. Katowice, M. Mys	Katowice, Mysłowice	PGG	WK-E	KWK Murcki-Staszic	Ruch Murcki	Murcki	419	33	2		2	29	3 552	4 324
21	M. Mysłowice, M. Ka	Katowice, Mysłowice	PGG	WK-E&K	KWK Mysłowice-Wesoła		Wesoła	2 253	2 066	1 860	1 713	2 106	2 000	3 908	3 537
22	M. Ruda Śląska, mik	Ruda Śląska, Mikoło	PGG	WK-E&K	KWK Ruda	Ruch Bielszowice	Zabrze-Bielszowice	1 890	1 624	1 968	1 713	1 393	1 217		
23	M. Ruda Śląska	Ruda Śląska	PGG	WK-E&K	KWK Ruda	Ruch Halemba	Halemba I	1 851	995	459	1 386	1 039	843		
24	M. Ruda Śląska	Ruda Śląska	PGG	WK-E&K	KWK Ruda	Ruch Halemba	Halemba II	211	557	636	633	616	555	6 529	6 638
25	mikołowski, M. Ruda	Mikołów, Ruda Śląsk	PGG	WK-E&K	KWK Ruda	Ruch Halemba	Śmiłowice						14		

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Meet the team

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