#RWET2024

De la data à la décision

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30 Janvier 2024

La data est partout …

2006 – “Data is the new oil” – Clive Humby

Source: https://hubmeta.com/uncategorized/data-is-the-new-oil/

La data est partout …

2017 – “The world’s most valuable resource is no longer oil, but data” – The Economist

Et la data, ça ressemble à quoi?

hotel	lead_time	arrival_date_year	arrival_date_month	arrival_date_day_of_month	stays_in_weekend_nights	stays_in_week_nights	adults	children	babies	meal	country	market_segment
Resort Hotel	342	2015	July	1	0	0	2	0	0	BB	PRT	Direct
Resort Hotel	737	2015	July	1	0	0	2	0	0	BB	PRT	Direct
Resort Hotel	7	2015	July	1	0	1	1	0	0	BB	GBR	Direct
Resort Hotel	13	2015	July	1	0	1	1	0	0	BB	GBR	Corporate
Resort Hotel	14	2015	July	1	0	2	2	0	0	BB	GBR	Online TA
Resort Hotel	14	2015	July	1	0	2	2	0	0	BB	GBR	Online TA
Resort Hotel	0	2015	July	1	0	2	2	0	0	BB	PRT	Direct
Resort Hotel	9	2015	July	1	0	2	2	0	0	FB	PRT	Direct
Resort Hotel	85	2015	July	1	0	3	2	0	0	BB	PRT	Online TA
Resort Hotel	75	2015	July	1	0	3	2	0	0	HB	PRT	Offline TA/TO
Resort Hotel	23	2015	July	1	0	4	2	0	0	BB	PRT	Online TA
Resort Hotel	35	2015	July	1	0	4	2	0	0	HB	PRT	Online TA
Resort Hotel	68	2015	July	1	0	4	2	0	0	BB	USA	Online TA
Resort Hotel	18	2015	July	1	0	4	2	1	0	HB	ESP	Online TA
Resort Hotel	37	2015	July	1	0	4	2	0	0	BB	PRT	Online TA
Resort Hotel	68	2015	July	1	0	4	2	0	0	BB	IRL	Online TA
Resort Hotel	37	2015	July	1	0	4	2	0	0	BB	PRT	Offline TA/TO
Resort Hotel	12	2015	July	1	0	1	2	0	0	BB	IRL	Online TA
Resort Hotel	0	2015	July	1	0	1	2	0	0	BB	FRA	Corporate

Source: https://www.kaggle.com/datasets/jessemostipak/hotel-booking-demand/data License: Attribution 4.0 International (CC BY 4.0)

Hotel Booking Demand Datasets: Nuno Antonio, Ana Almeida, Luis Nunes, Data in Brief, 2019

Et la data, ça ressemble à quoi?

market_segment	previous_cancellations	previous_bookings_not_canceled	reserved_room_type	assigned_room_type	booking_changes	adr	required_car_parking_spaces	total_of_special_requests	reservation_status	reservation_status_date
Direct	0	0	C	C	3	0	0	0	Check-Out	01/07/2015
Direct	0	0	C	C	4	0	0	0	Check-Out	01/07/2015
Direct	0	0	A	C	0	75	0	0	Check-Out	02/07/2015
Corporate	0	0	A	A	0	75	0	0	Check-Out	02/07/2015
Online TA	0	0	A	A	0	98	0	1	Check-Out	03/07/2015
Online TA	0	0	A	A	0	98	0	1	Check-Out	03/07/2015
Direct	0	0	C	C	0	107	0	0	Check-Out	03/07/2015
Direct	0	0	C	C	0	103	0	1	Check-Out	03/07/2015
Online TA	0	0	A	A	0	82	0	1	Canceled	06/05/2015
Offline TA/TO	0	0	D	D	0	1055	0	0	Canceled	22/04/2015
Online TA	0	0	E	E	0	123	0	0	Canceled	23/06/2015
Online TA	0	0	D	D	0	145	0	0	Check-Out	05/07/2015
Online TA	0	0	D	E	0	97	0	3	Check-Out	05/07/2015
Online TA	0	0	G	G	1	15477	0	1	Check-Out	05/07/2015
Online TA	0	0	E	E	0	9471	0	0	Check-Out	05/07/2015
Online TA	0	0	D	E	0	97	0	3	Check-Out	05/07/2015
Offline TA/TO	0	0	E	E	0	975	0	0	Check-Out	05/07/2015
Online TA	0	0	A	E	0	882	0	0	Check-Out	02/07/2015
Corporate	0	0	A	G	0	10742	0	0	Check-Out	02/07/2015

Source: https://www.kaggle.com/datasets/jessemostipak/hotel-booking-demand/data License: Attribution 4.0 International (CC BY 4.0)

Hotel Booking Demand Datasets: Nuno Antonio, Ana Almeida, Luis Nunes, Data in Brief, 2019

De la data à la connaissance - # moyen de nuitées

De la data à la connaissance - # moyen de nuitées

reservation_status
Check-Out

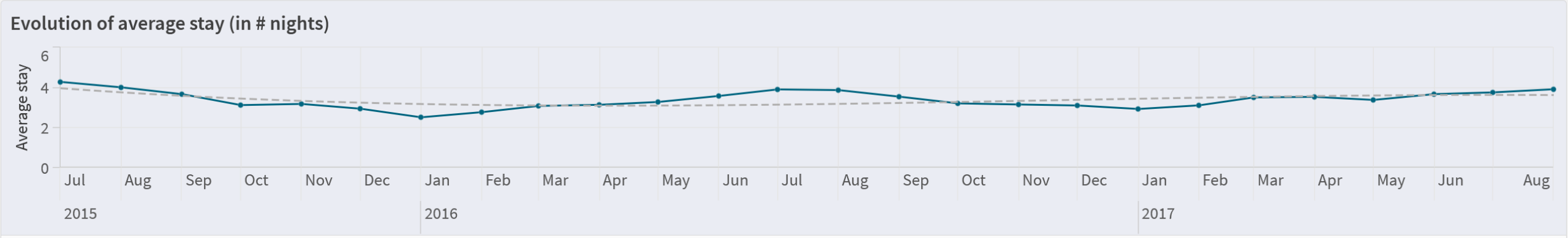
De la data à la connaissance - # moyen de nuitées

hotel	reservation_status	market_segment	meal	Country

reservation_status
Check-Out

De la data à la connaissance - # moyen de nuitées

hotel | reservation_status | market_segment | meal | Country

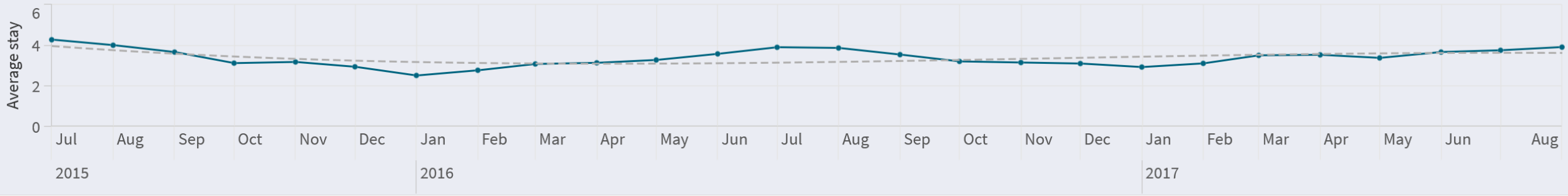


reservation_status
Check-Out

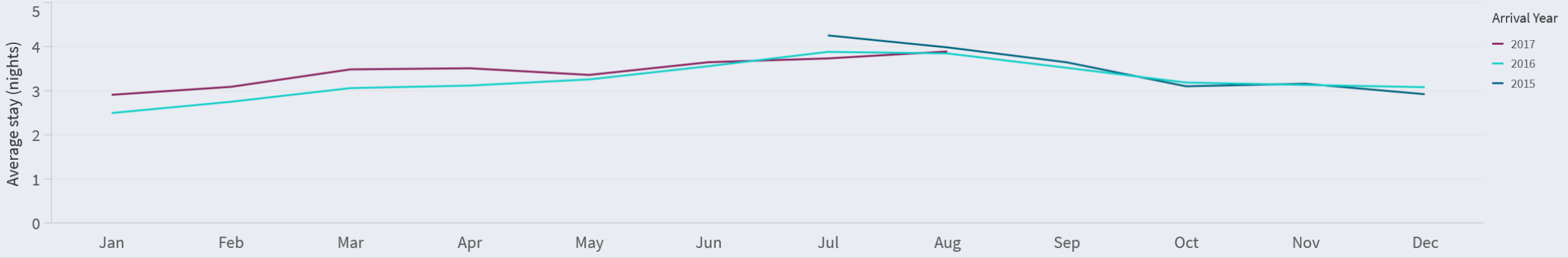
De la data à la connaissance - # moyen de nuitées

hotel | reservation_status | market_segment | meal | Country

Evolution of average stay (in # nights)



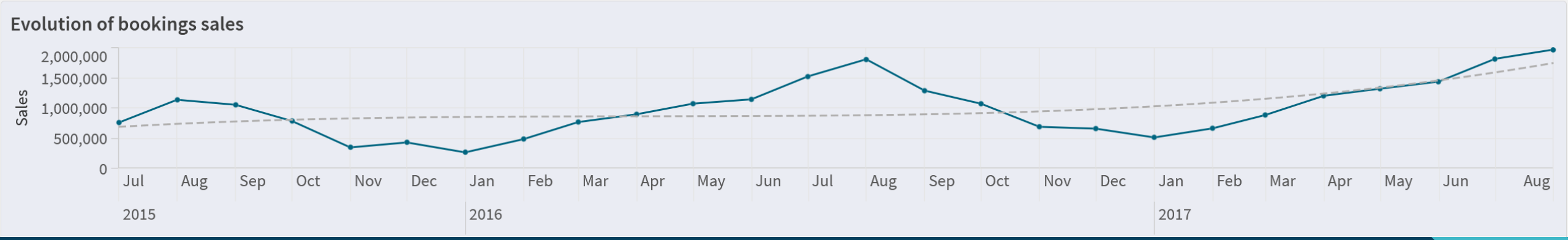
Month comparison between years



De la data à la connaissance - €

reservation_status
Check-Out

hotel | reservation_status | market_segment | meal | Country

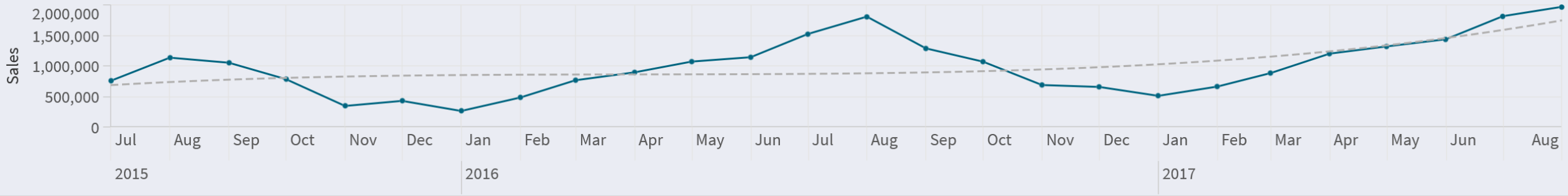


reservation_status
Check-Out

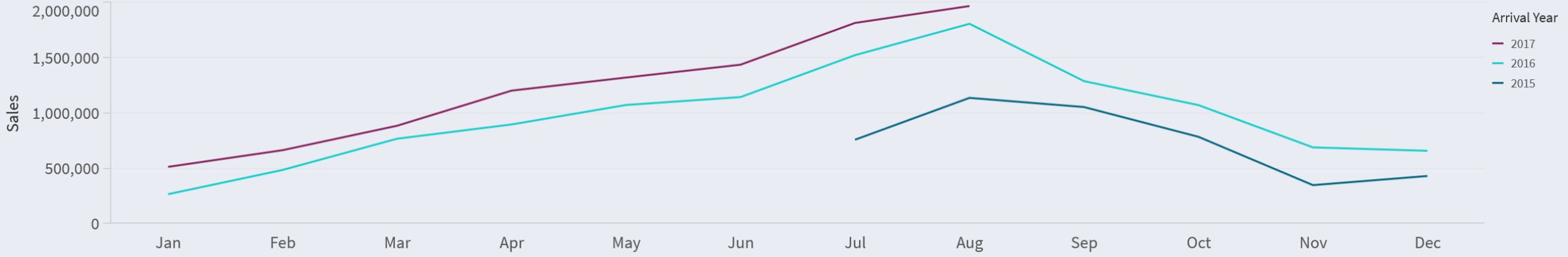
De la data à la connaissance - €

hotel | reservation_status | market_segment | meal | Country

Evolution of bookings sales



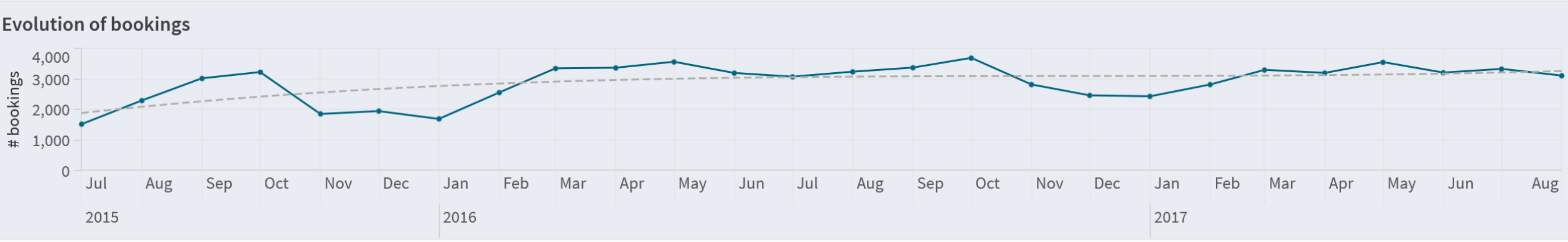
Month comparison between years



reservation_status
Check-Out

De la data à la connaissance - # de réservations

hotel | reservation_status | market_segment | meal | Country

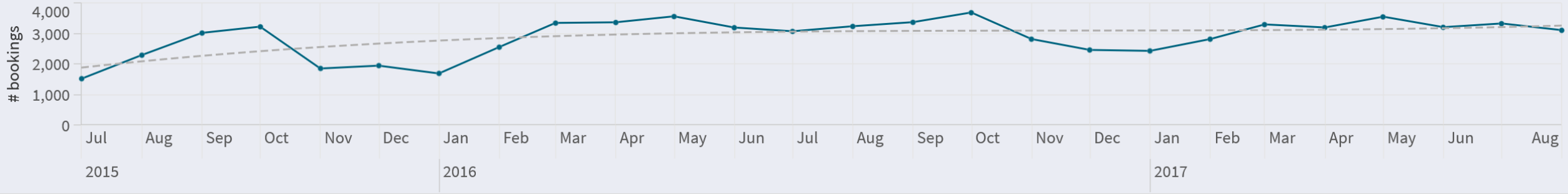


reservation_status
Check-Out

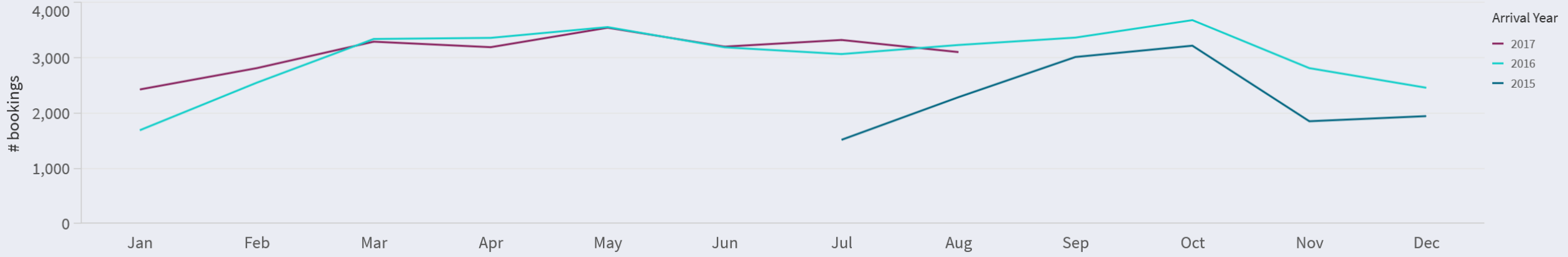
De la data à la connaissance - # de réservations

hotel | reservation_status | market_segment | meal | Country

Evolution of bookings

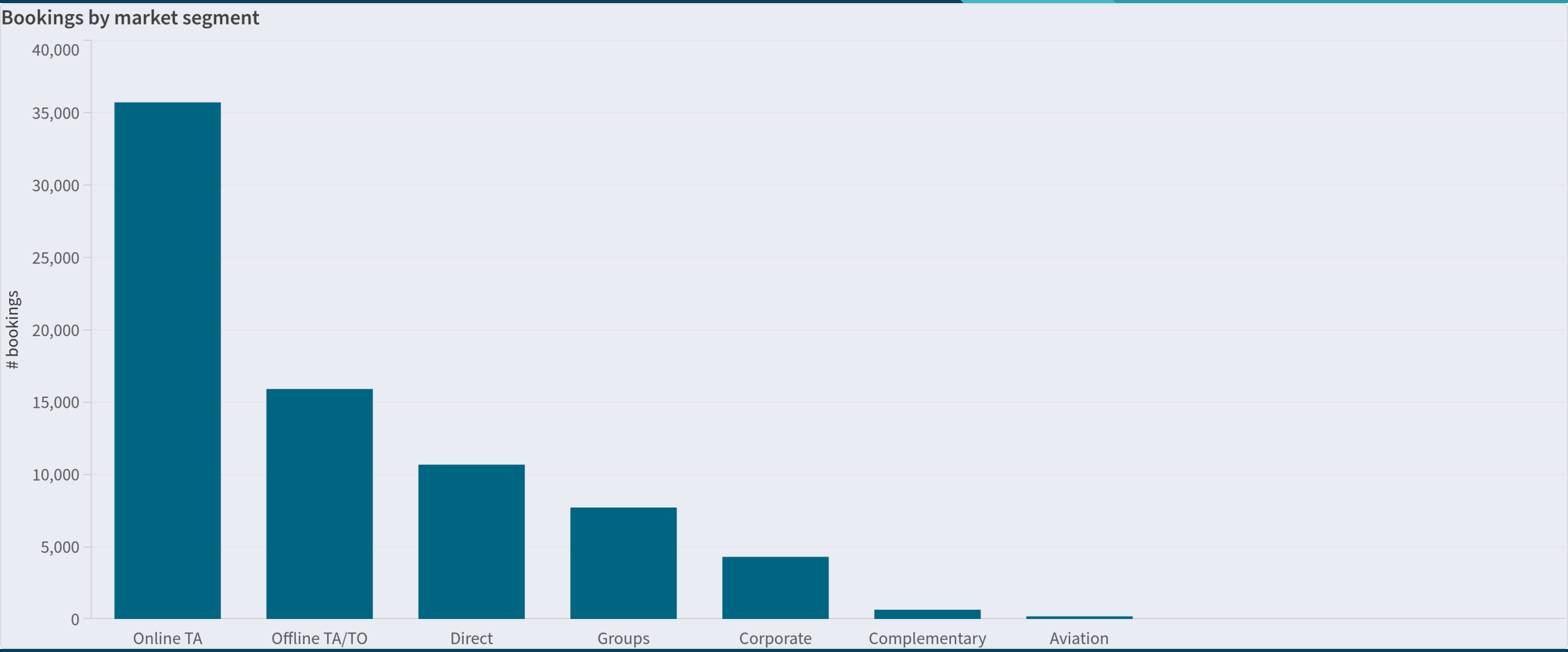


Month comparison between years



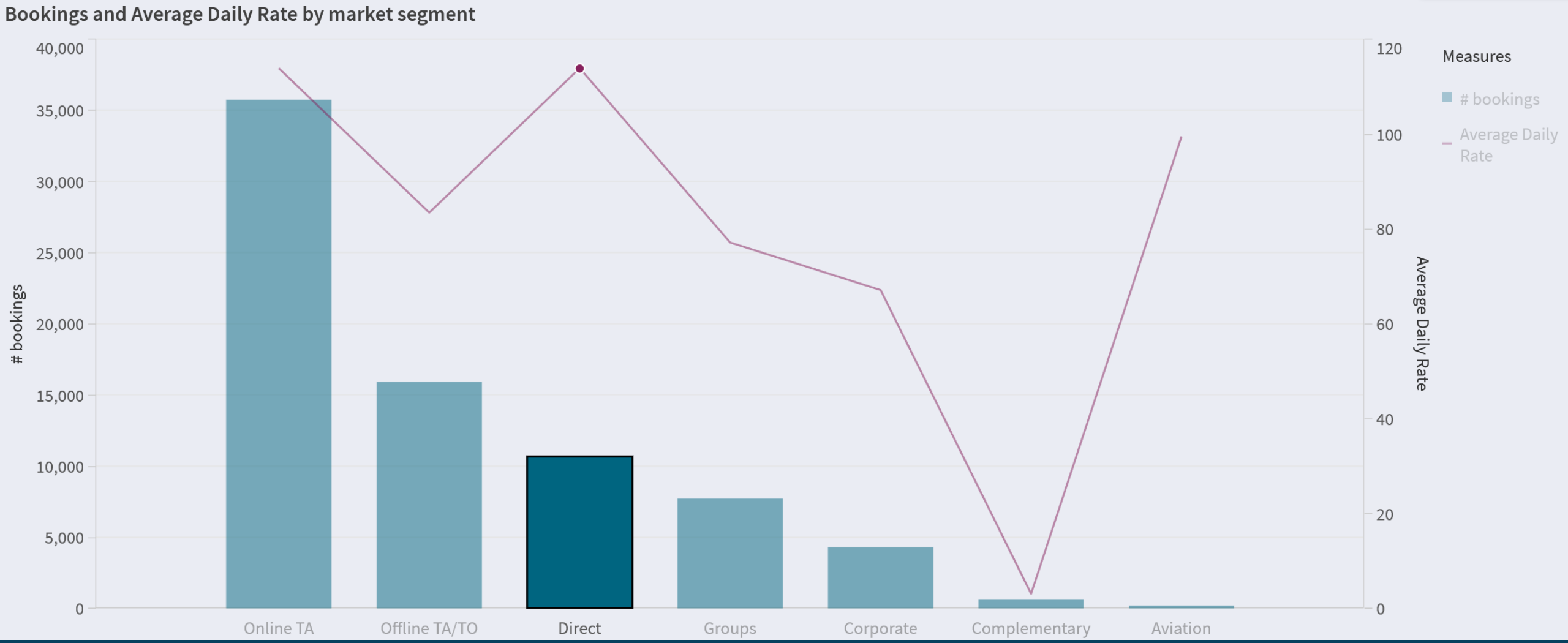
reservation_status
Check-Out

De la data à la connaissance - # de réservations



reservation_status
Check-Out

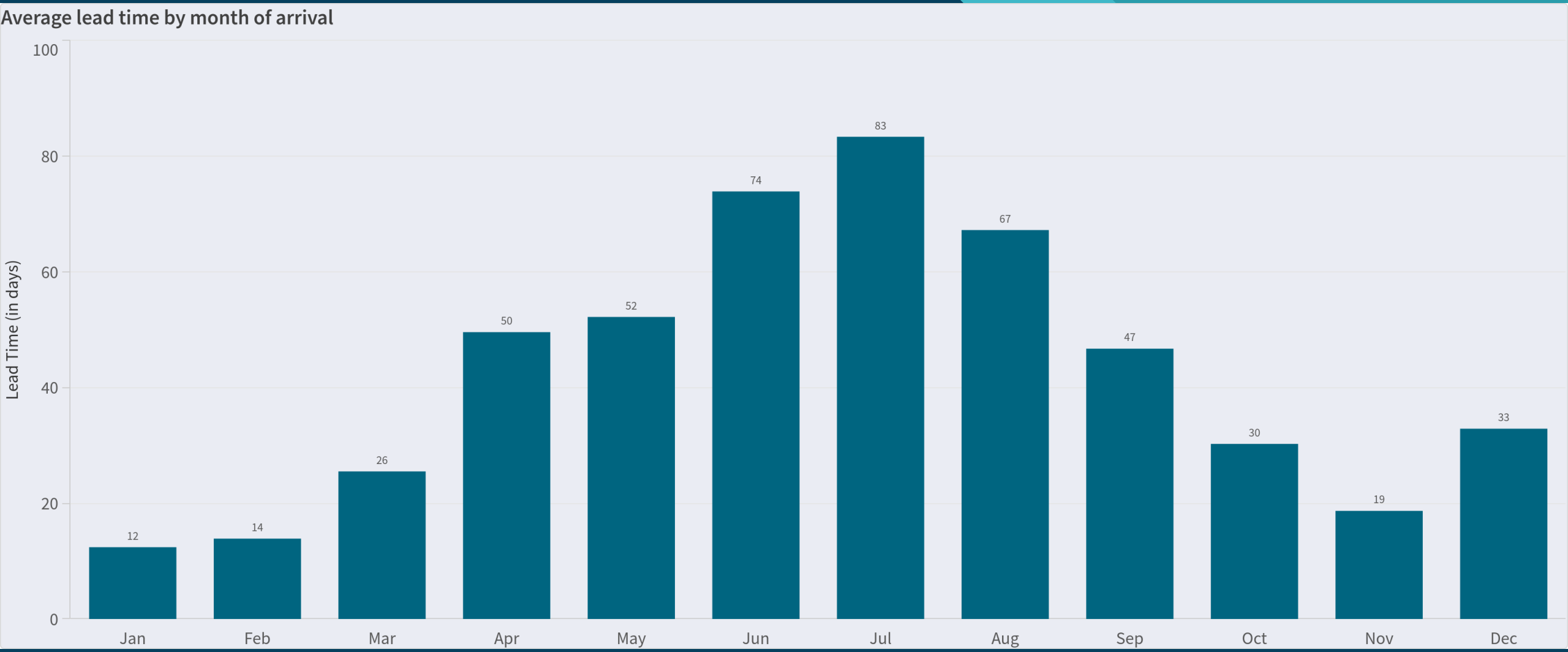
De la data à la connaissance - prix journalier moyen



reservation_status
Check-Out

market_segment
Direct

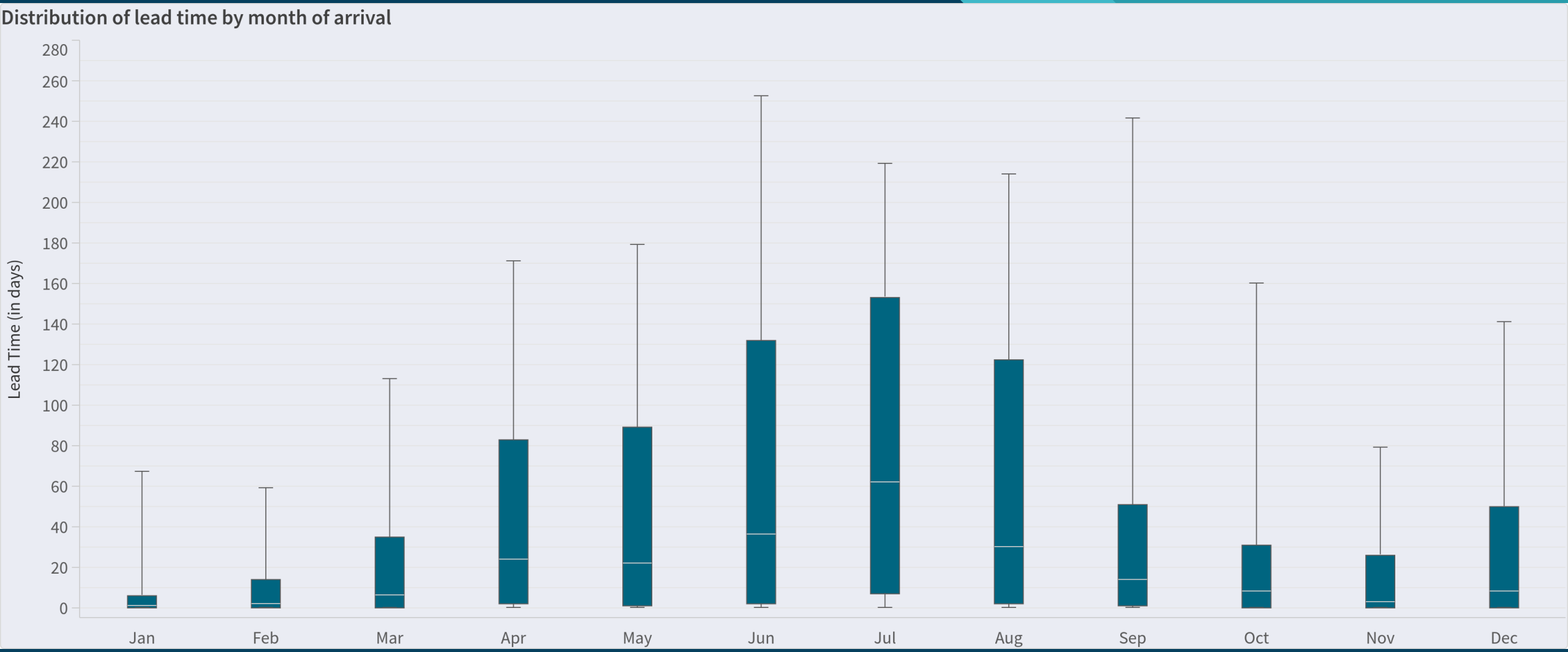
De la data à la decision - Temps moyen réservation/arrivée



reservation_status
Check-Out

market_segment
Direct

De la data à la decision - Temps moyen réservation/arrivée



Et si on voyageait …

Et si on voyageait … vers l'Algorithmique

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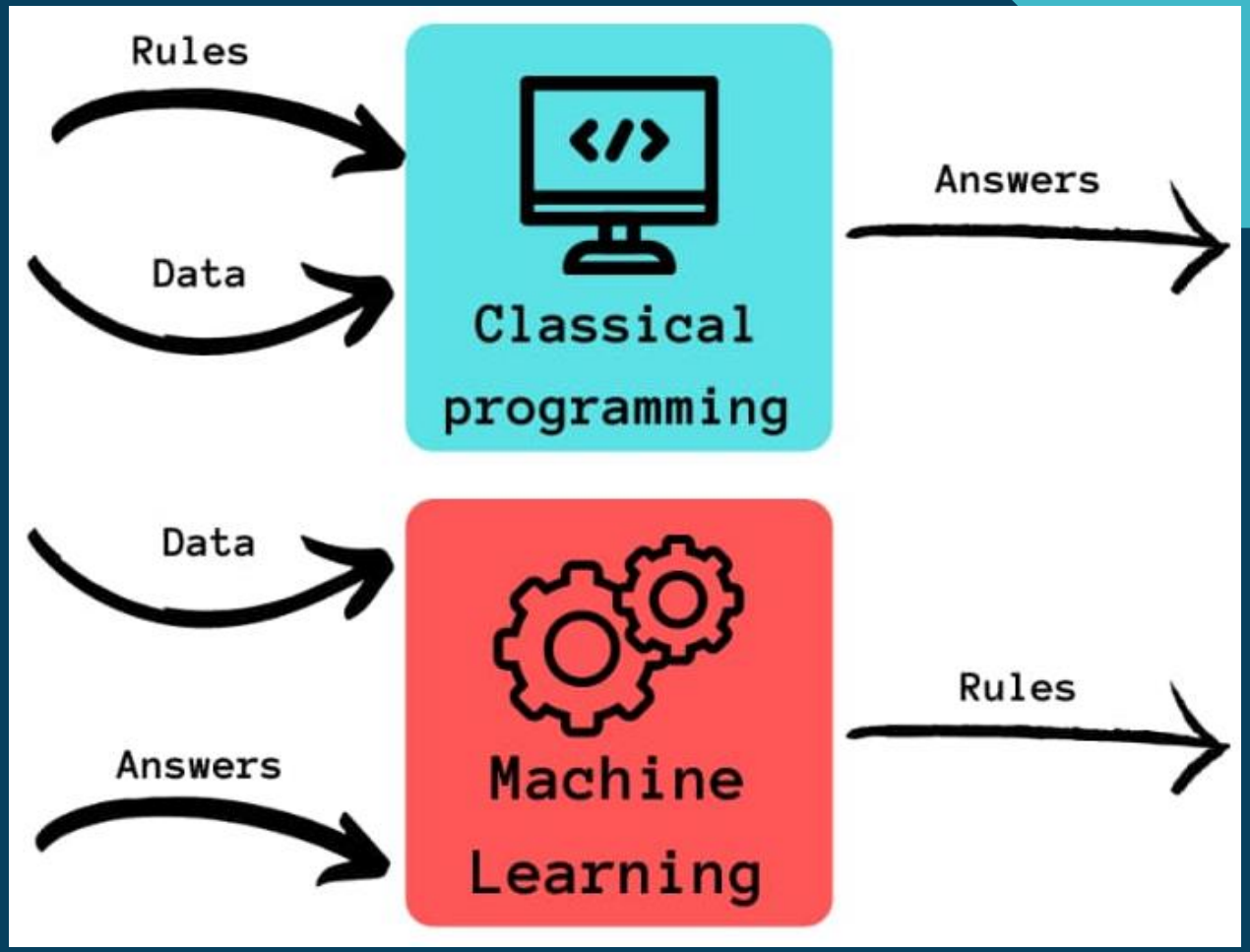
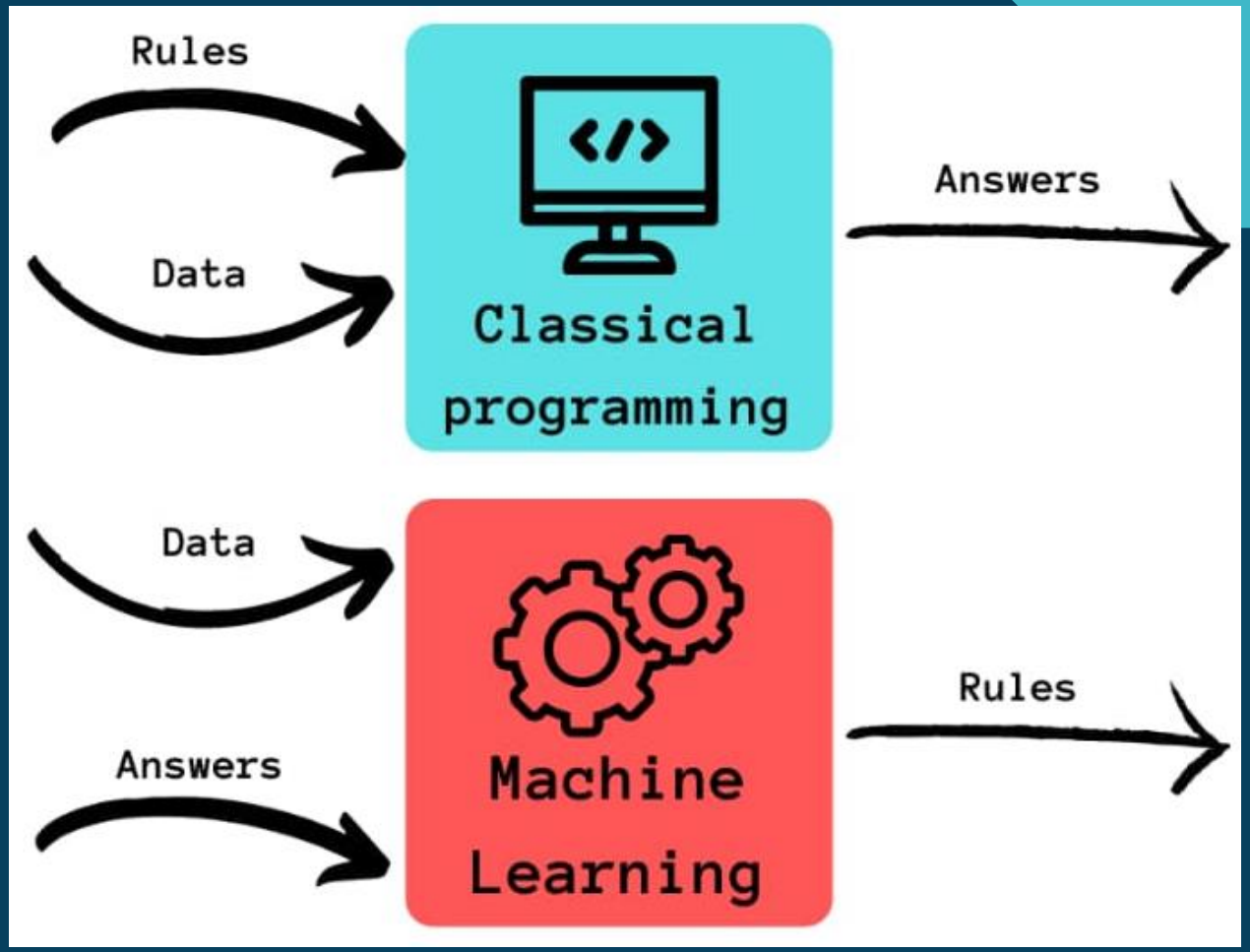


Source: https://inlocrobotics.com/en/evolution-of-artificial-intelligence/

https://futurice.com/blog/differences-between-machine-learning-and-software-engineering

Et si on voyageait … vers l'Algorithmique



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Les datas swingent!

Et si on jouait au golf …

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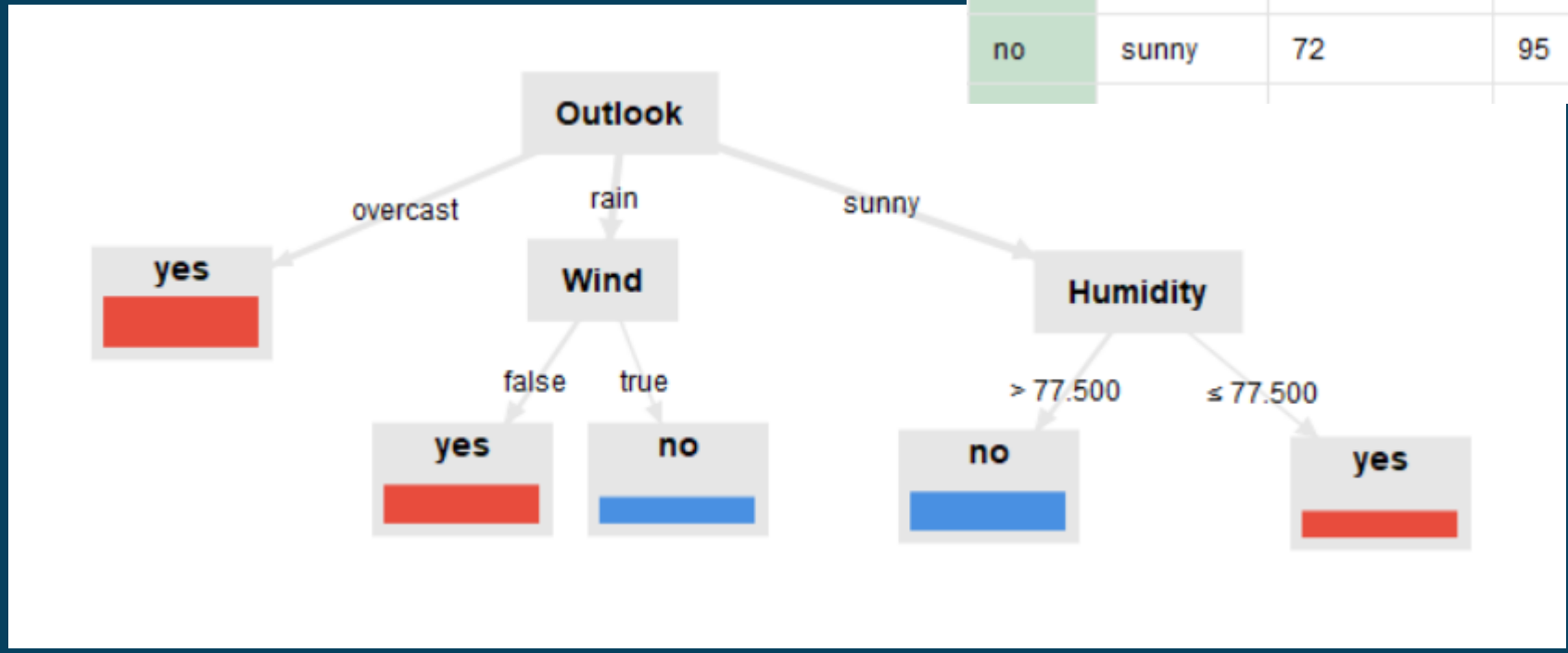
Et si on jouait au golf …

Play	Outlook	Temperature	Humidity	Wind
no	sunny	85	85	false
no	sunny	80	90	true
yes	overcast	83	78	false
yes	rain	70	96	false
yes	rain	68	80	false
no	rain	65	70	true
yes	overcast	64	65	true
no	sunny	72	95	false

Les datas swingent!

Et si on jouait au golf …

Play	Outlook	Temperature	Humidity	Wind
no	sunny	85	85	false
no	sunny	80	90	true
yes	overcast	83	78	false
yes	rain	70	96	false
yes	rain	68	80	false
no	rain	65	70	true
yes	overcast	64	65	true
no	sunny	72	95	false



IA, data: même combat?

Sans data, pas d’IA.

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Combinaison humain et IA: https://aroundus.com

IA, data: même combat?

Sans data, pas d'IA.

Combinaison humain et IA: https://aroundus.com

Les chatbots font leur retour avec les LLM …

Sources: https://www.lefigaro.fr/voyages/l-intelligence-artificielle-le-guide-de-voyage-2-0-20230703

https://www.lefigaro.fr/voyages/comment-l-ia-modifie-deja-le-quotidien-des-voyageurs-20231202

Il n’y a plus qu’un pas vers la data!