



The Proportions of Cancers Associated with Modifiable Risk Factors in **LUXEMBOURG**

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**Registre National
du Cancer**
LUXEMBOURG

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The Grand Duchy of Luxembourg?

Population on 1 January 2025:

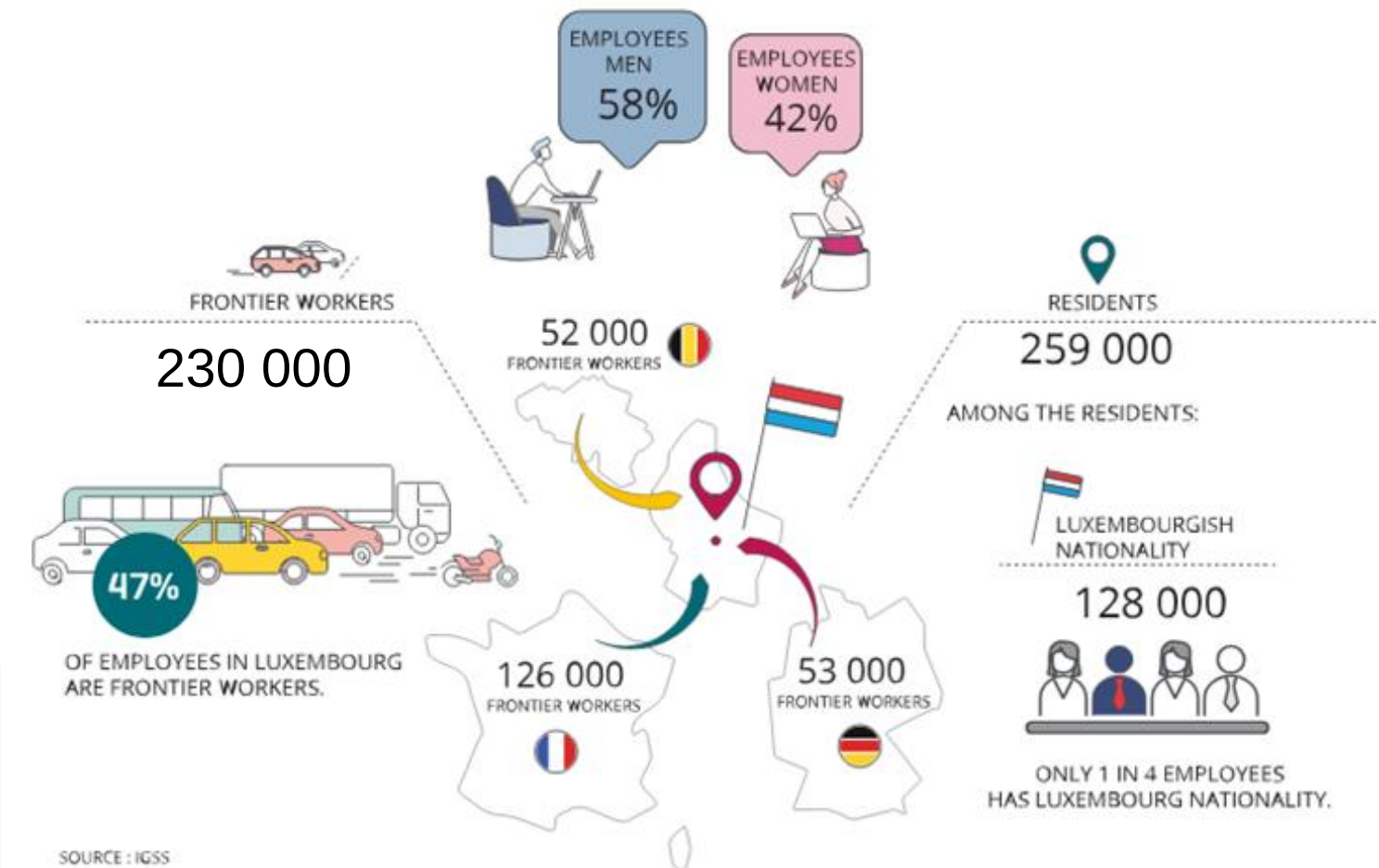


EU:

- The fastest population growth rate (81% since 80's)
- One of the youngest populations



In the last quarter of 2024,
489,000 employees worked in Luxembourg



Registre National du Cancer Luxembourg

Population-Based Cancer Registry (PBCR)

Inclusion

All new cancer cases diagnosed / treated in Luxembourg
(exception NMSC)

Legal regulation:

Règlement Grand- Ducale **13 Avril 2013**

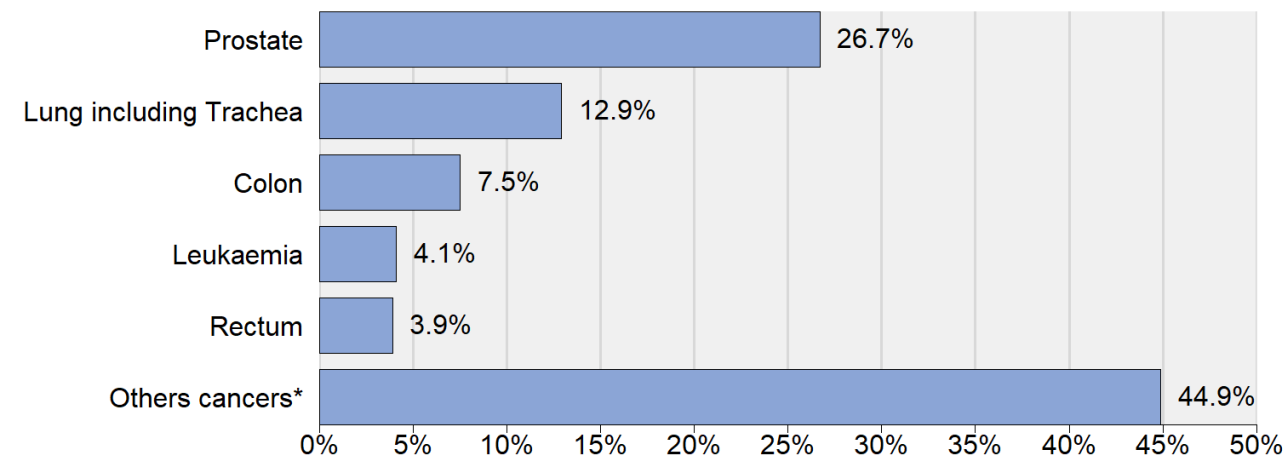
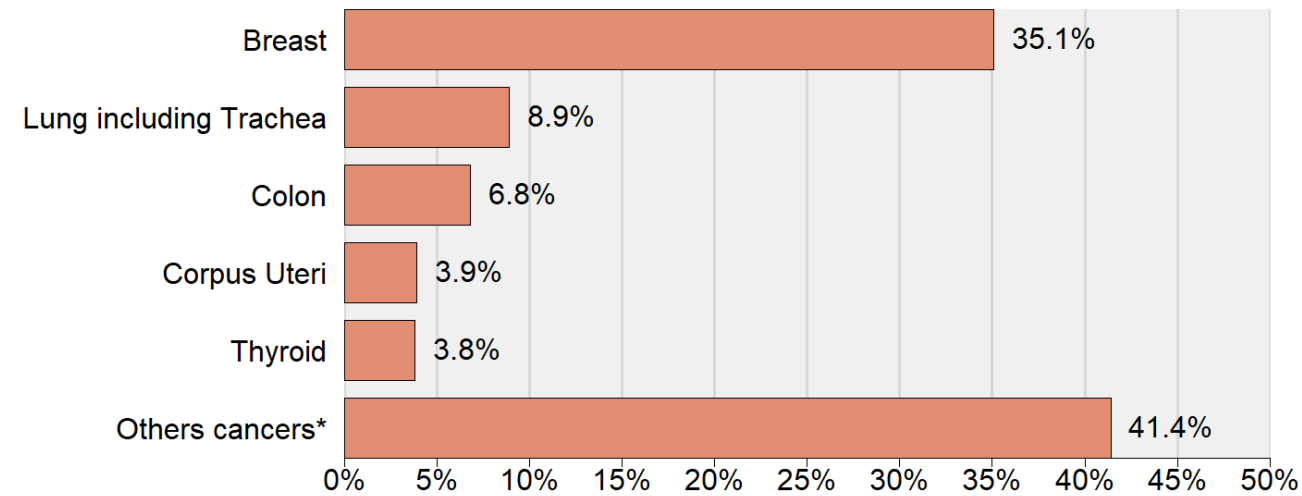
Multi-sources System

Pseudonymisation

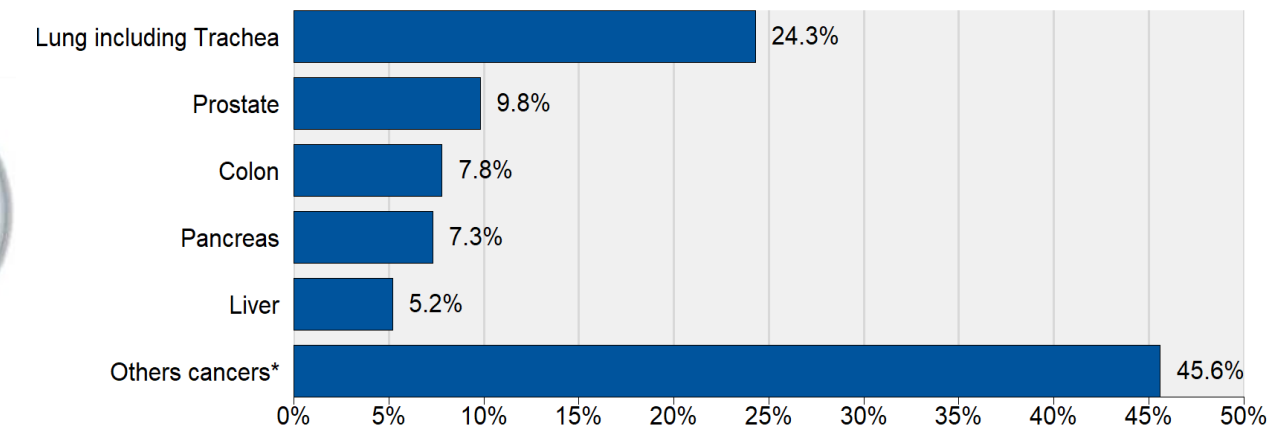
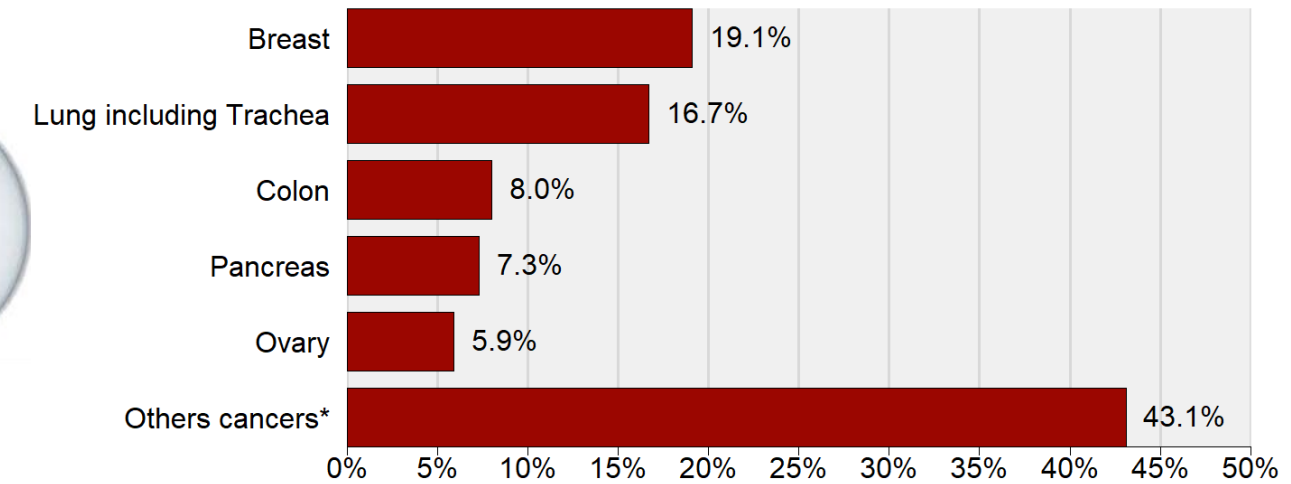
- ✓ continuous
- ✓ systematic
- ✓ exhaustive
- ✓ non-redundant

Cancer in Luxembourg – Incidence and Mortality

Incidence



Mortality



Ngandjon, Z., Niang, I., Mafra, A., Lima, B., Couffignal, S., & Backes, C. (2025). *Rapport National - le cancer au Luxembourg: incidence et mortalité 2014-2021- Etat des lieux des cancers au Luxembourg*.



Cancer in Luxembourg – Unique Risk Factor and Healthcare System Circumstances

- Luxembourg's low taxes on cigarettes (Burki, 2024) and alcohol (Kilian et al., 2023)



- Cross-border workers, who partake of the same health insurance provisions that benefit residents, compose 47% of Luxembourg's workforce (ADEM, 2024)



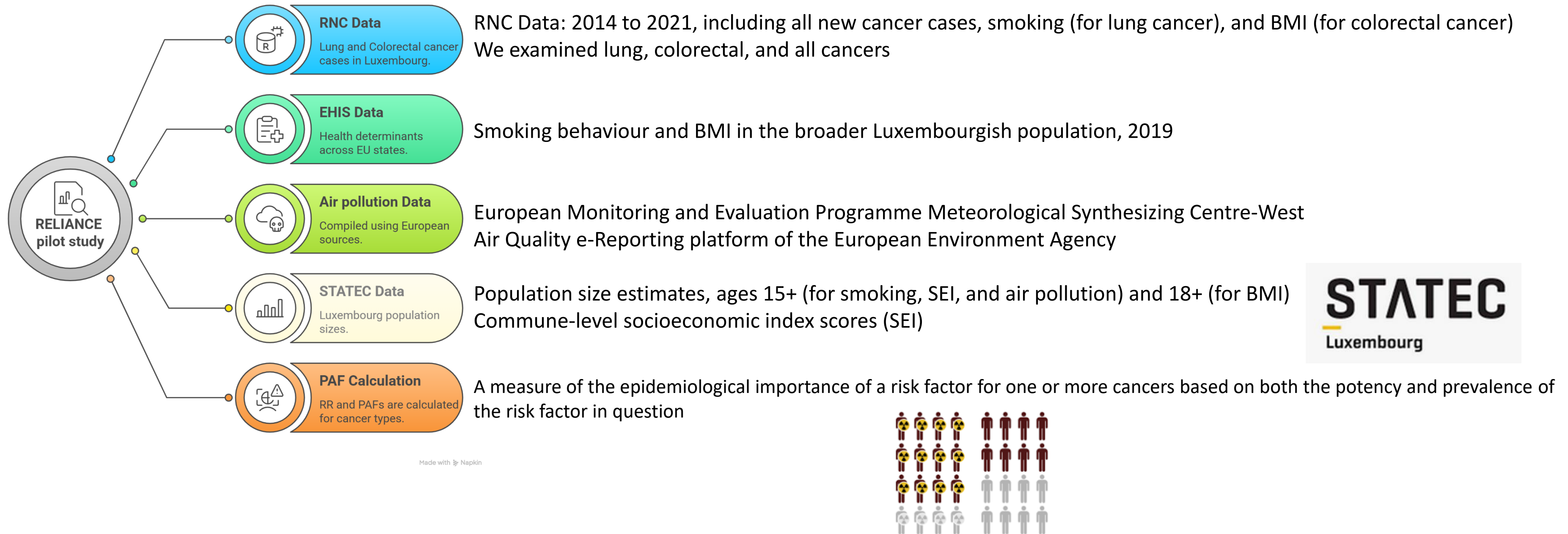
- Thus, added pressures on the healthcare system



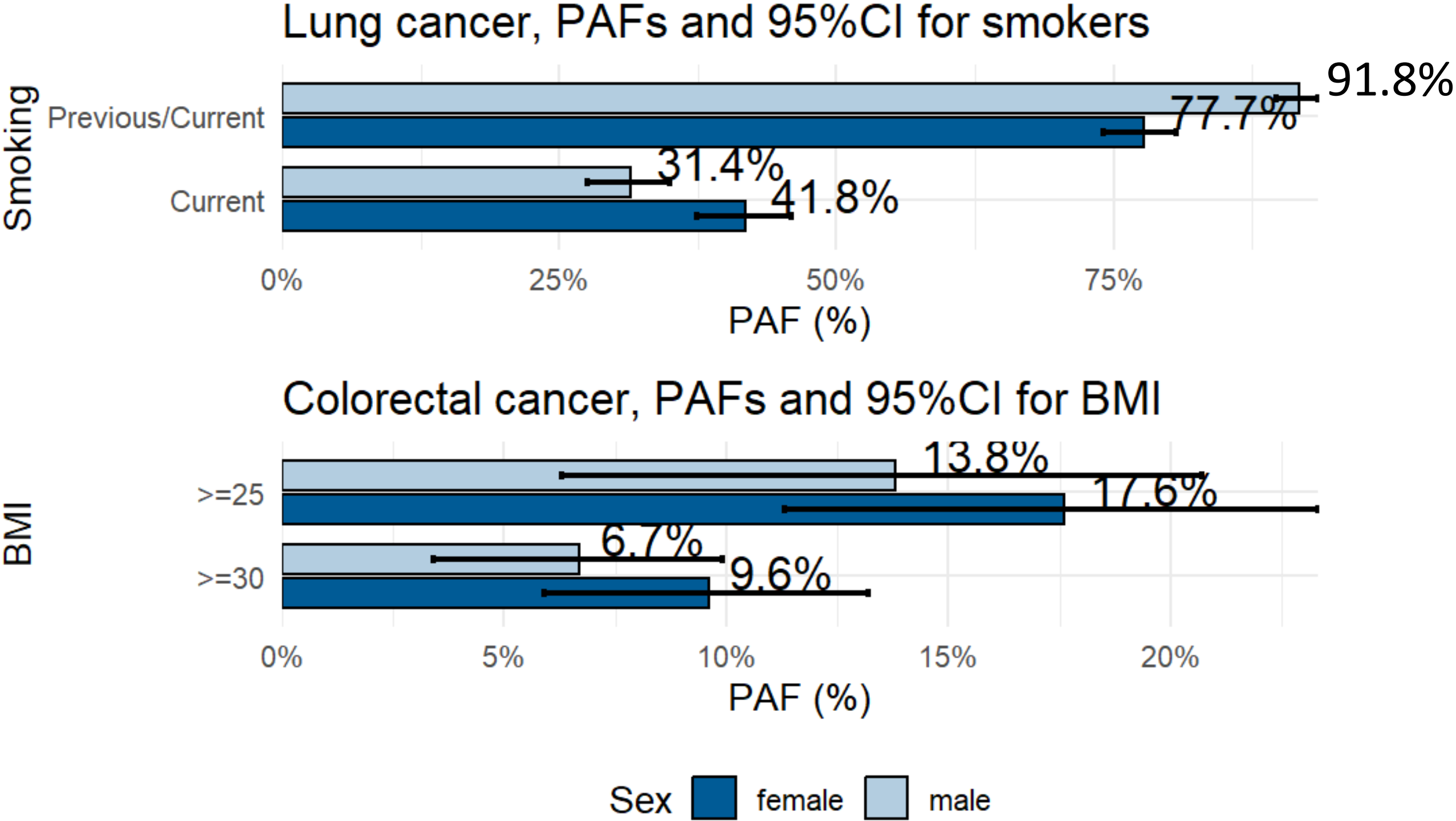
- Further adding to air pollution, with consequences for health (Weiss, 2025)



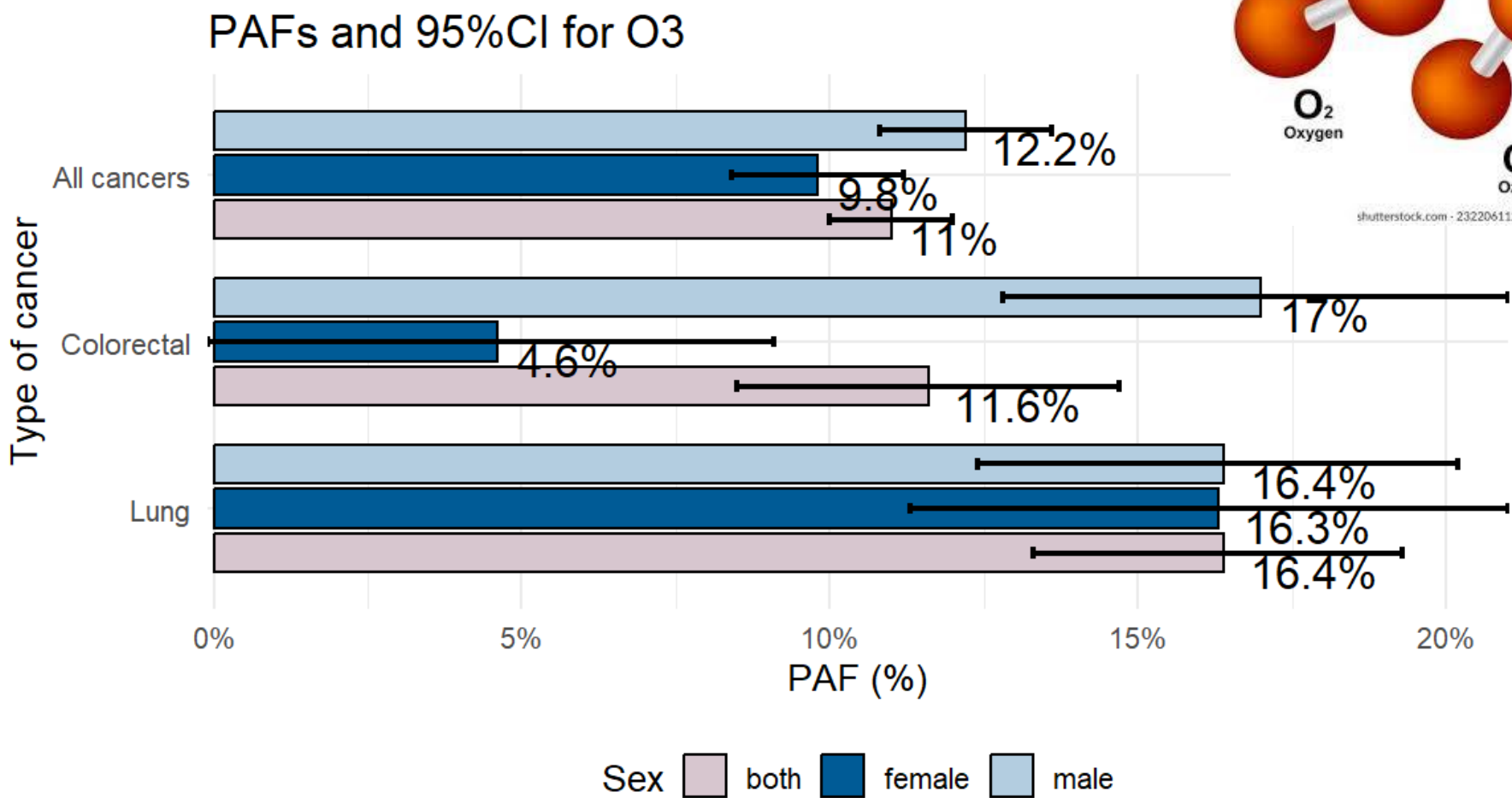
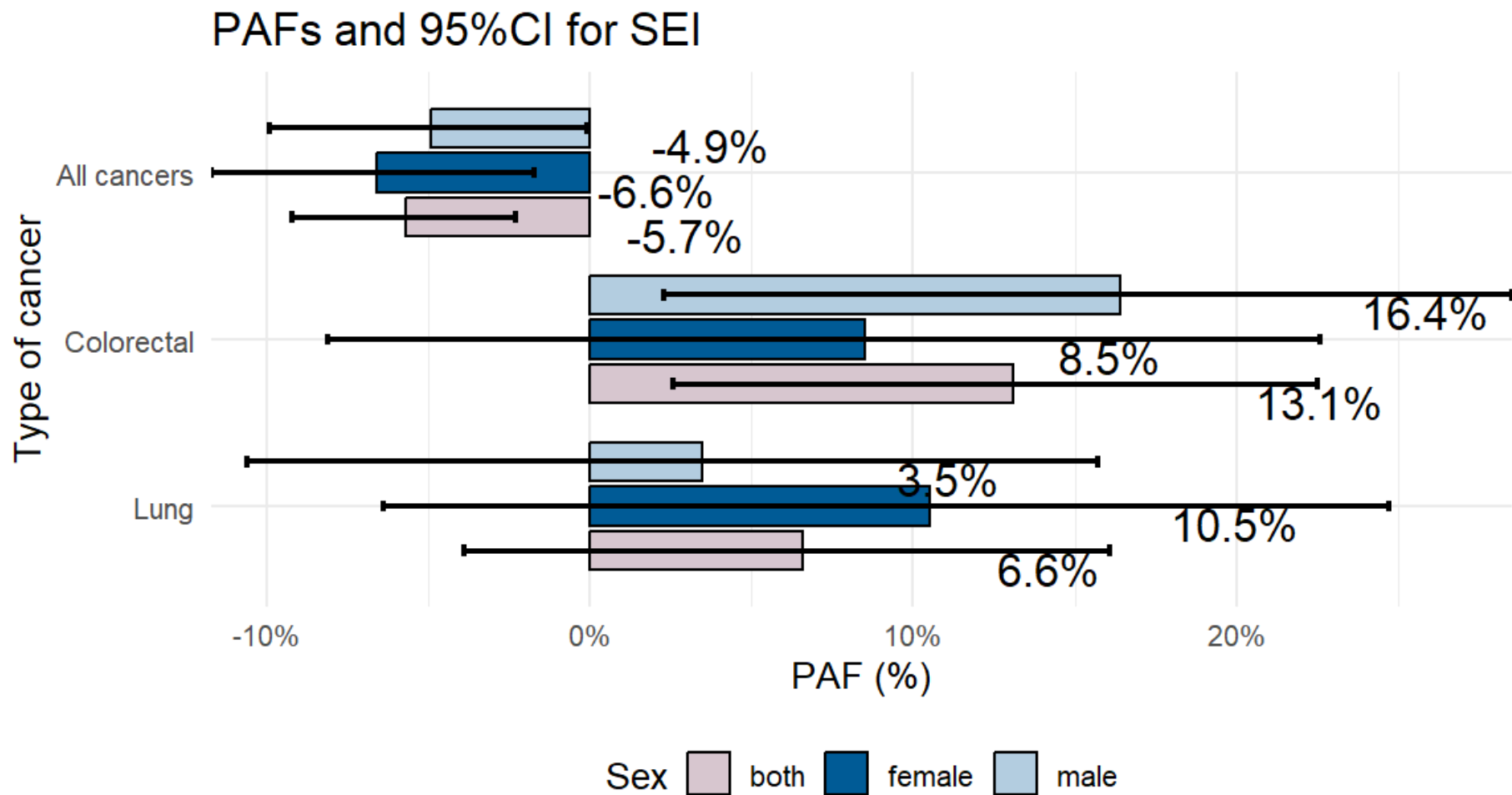
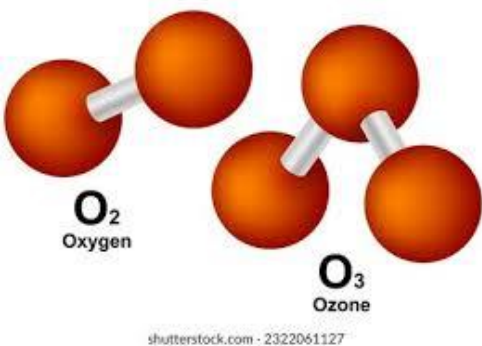
Proportion of preventable cancers in Luxembourg?



Results – Population Attributable Fractions (PAFs - %) Individual-Level Influences



Results – Population Attributable Fractions (PAFs - %) Commune-Level Influences



■ Ozone (O3) levels from 2009-2018 were a strategic choice based on Weiss (2025) and Irceline - Indice BelAQI

Comparisons with Other Nations

PAF Results in our Study and in Other Nations	
Smoking – PAF for Lung Cancer	BMI $\geq$ 25 – PAF for Colorectal Cancer
Luxembourg – Our Study: 79% - France (Cao et al., 2018): 81% - Germany (Mons et al., 2018): men – 89% women – 83% - Italy (Collatuzzo et al., 2024): 74% - United Kingdom (Wang et al., 2022): 64% ➤ PAFs spanning 64% to 89%	Luxembourg – Our Study: 19% - Australia (Kendall et al., 2015): 10% - Germany (Mandic et al., 2024): 12% - Italy (Di Maso et al., 2023): men – 10% women – 3% ➤ PAFs spanning 3% and 12%



Discussion and Conclusion



This is the first time this type of study has been conducted in Luxembourg



The value of combinations of cancer registry data with other sources of data



The challenges in accomplishing these combinations



Our study's follow up on the EPI CAN team's previous work involving combinations of RNC data with other sources



Other nations with national cancer registries and involvement in the EHIS, or similar national surveys, can accomplish data combinations such as ours



The importance of international comparisons



Future research should assess other risk factors and other forms of cancer within Luxembourg



Our Team Members



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2020
2024



LE GOUVERNEMENT
DU GRAND-DUCHÉ DE LUXEMBOURG
Ministère de la Santé
et de la Sécurité sociale



Registre National
du Cancer
LUXEMBOURG

Thank You!
Teşekkür ederim!

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