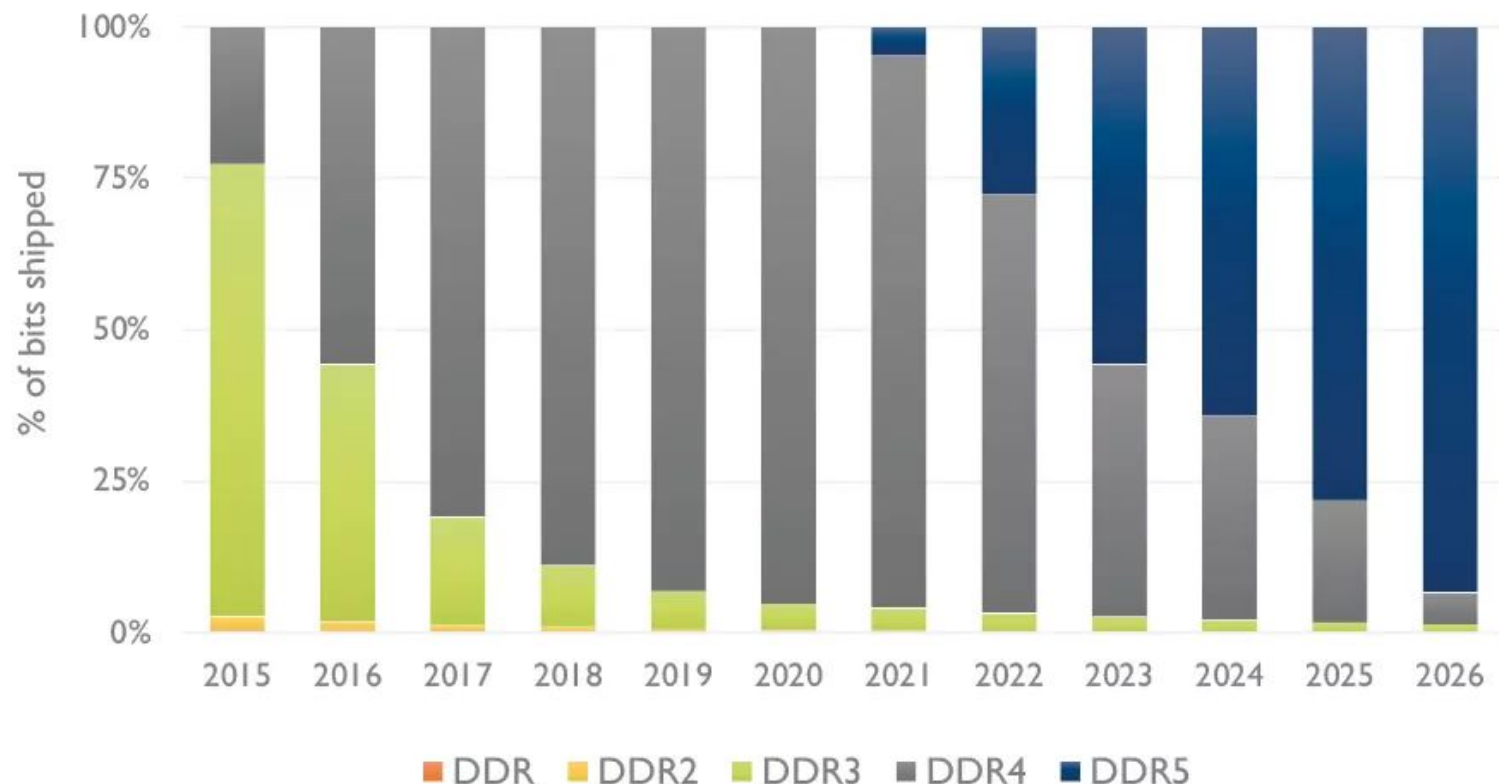


# “Frankenserver”

A. Redding, A. Yang, G. Yuan

# Breakdown of DDR bit shipments by interface generations - historical (2015-2020) and forecast (2021-2026)

(Source: Status of the Memory Industry 2021, Yole Développement, June 2021)



**Workload  
Evaluation**

**Carbon  
Analysis**

Computer  
w/  
DDR4  
Interface

```
graph LR; A[Computer w/ DDR4 Interface] <--> B[Translator]; B <--> C[1 GB DDR3]; B <--> D[1 GB DDR3]; B <--> E[1 GB DDR3]; B <--> F[1 GB DDR3];
```

Translator

1 GB DDR3

1 GB DDR3

1 GB DDR3

1 GB DDR3

Technology node	Embodied Carbon (g CO <sub>2</sub> /GB)
30nm DDR3	230
10nm DDR4	65

**436 mW** for 4GB (4x 1GB of DDR3-1066)

**320 mW** for 4GB (4x 1GB of DDR4-1066)

