WATERFORD
TECH MEETUP

Mick O'Brien

Tech talk: Programmatic Advertising in under 300 milliseconds

John Costello

Tech Talk: Ways of working in the Triad of Engineering, Product, and Design

Local Enterprise Office Waterford

SERVISBOT

Red Hat

Bluefin®

WATERFORD
TECH MEETUP

Programmatic Advertising under 300 ms

Mick O Brien

14 March 2024

The Market

The BIG Players

- Alphabet/Google - Google Ads, Search, YouTube
- Amazon
- Microsoft
- Meta - Facebook, Instagram and WhatsApp
- TikTok

2024 global online advertising revenue expectations

- Google - US$190.5bn
- Meta - US$146.3bn
- Amazon - US$52.7bn

The Market

Digital Marketing categories:

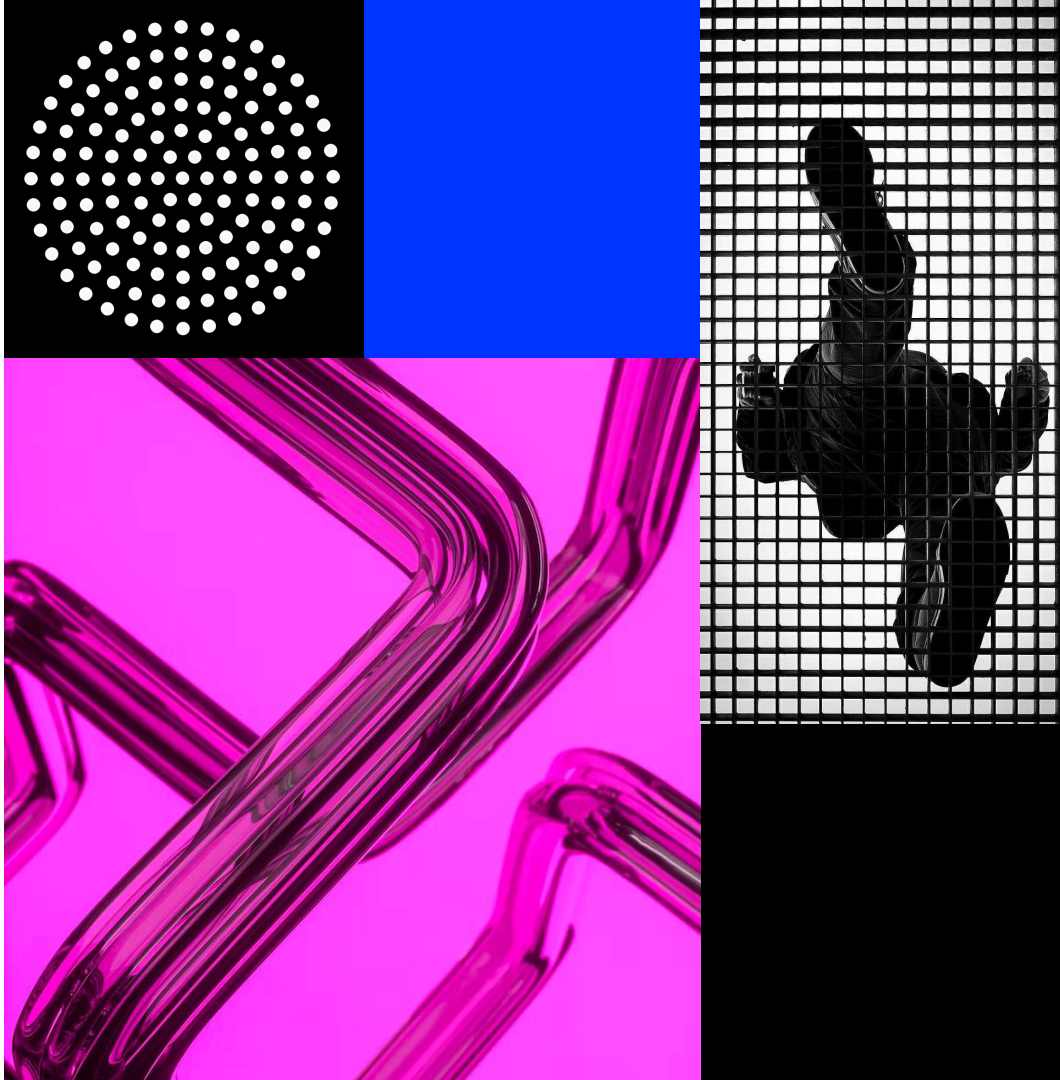
- Search Engine Marketing (S.E.M)
- Email Marketing
- Social Media Marketing
- Content Marketing
- Influencer Marketing
- Affiliate Marketing
- Mobile Marketing

2024 projections

- Ad spending in the Digital Advertising market to reach US$740.3bn
- The largest market is Search Advertising with a market volume of US$306.7bn
- In global comparison, most ad spending will be generated in the United States - US$298bn

WHAT WE DO

Deliver memorable digital advertising and content experiences



WHAT WE DO

PUBLISHERS

We work with publishers to provide **performant** ad experiences that **improve** user experience across the **Open Web**.

- web pages
- video players
- smart TV home screens
- etc.

SUPPLY

ADVERTISERS

We work with advertisers to build **eye-catching** ad experiences that provide more **awareness** for their **Brand**.

DEMAND

KARGO OPTIMIZES STANDARD CREATIVE

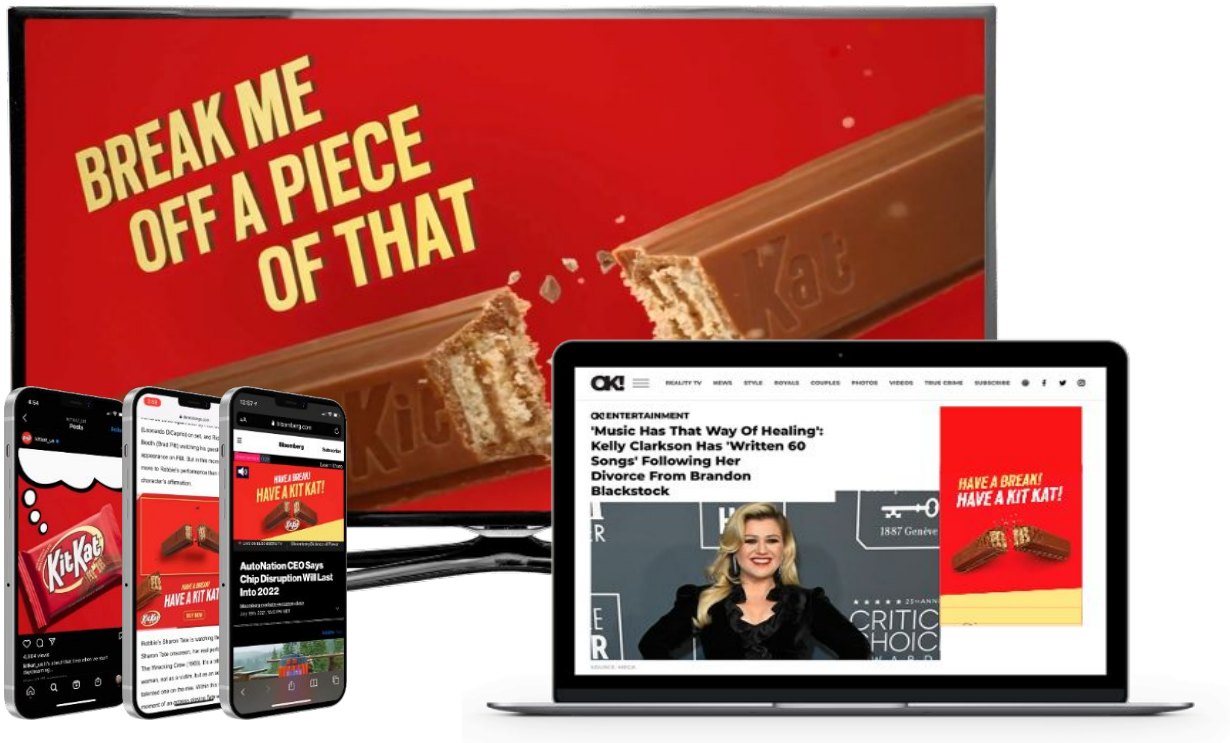
STANDARD CREATIVE ASSETS

BEYOND THE BANNER

IN-ARTICLE

VIDEO

ALL EYES ON KARGO



CAMPAIGNS, ADs & CREATIVES

We work with advertisers to set up their advertising **campaigns** and **ads** and build their **creatives**.

Campaign is high level entity that contains a set of ads to promote a product or service.

Ads contain creatives and other information used in the bidding process.

Creatives are the graphical representation of the ad.

CAMPAIGN

- Flight Dates
- Budget
- Contextual Targeting

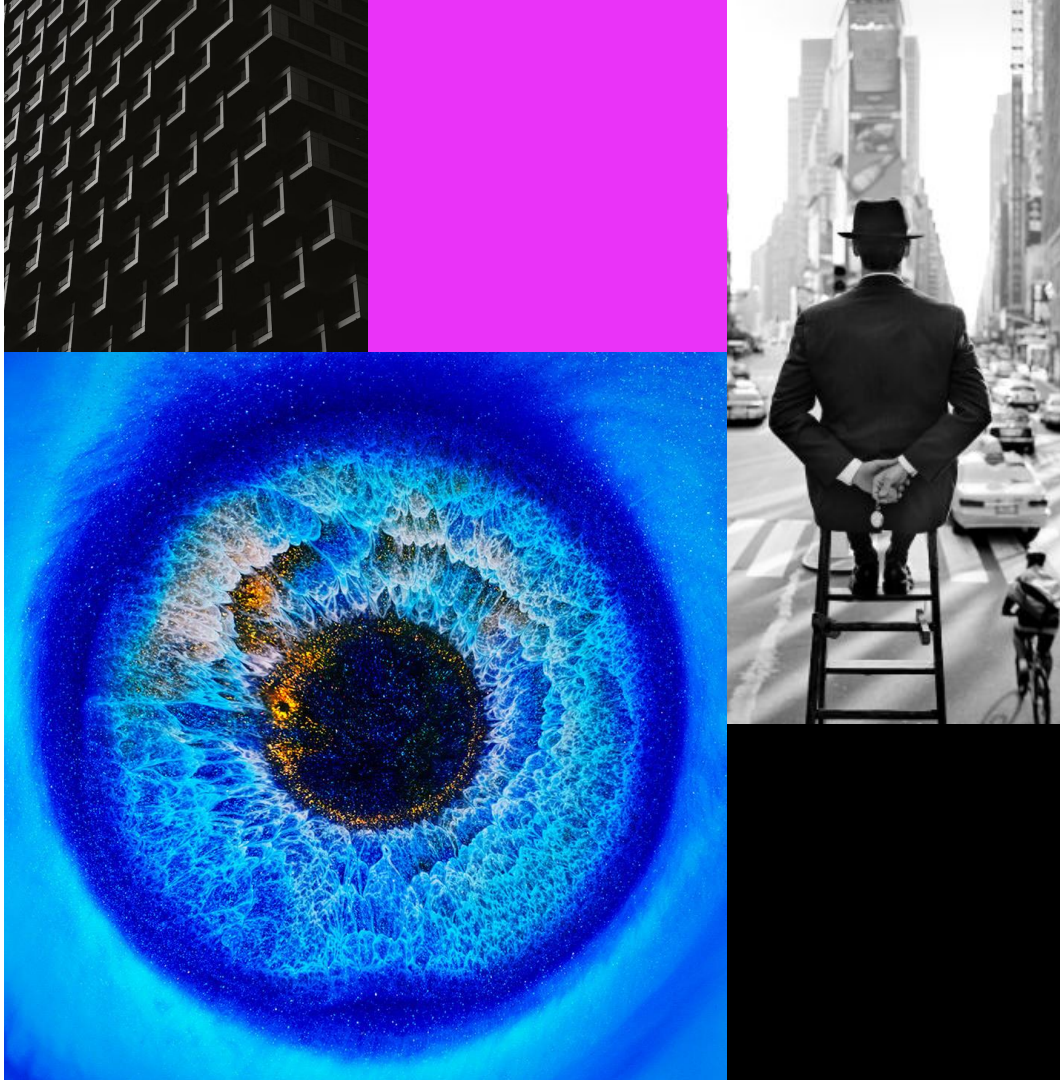
AD (aka line item)

- CPM
- Contextual Targeting
- Geo
- Day Parting
- Ad Markup

CREATIVE

- Image
- Animation
- Video
- Text

Ad Markup is the design definition for a creative.



Components of the Ad Markup

Creative Assets

Execution Info

- JavaScript - execution instructions
- Format

Trackers

- Impression Tracker
- View Tracker
- Click Tracker
- Video Action Trackers

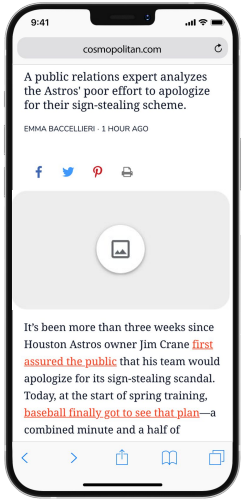
Bid params

- Ad Slot params
- IDs

BIDDING PROCESS

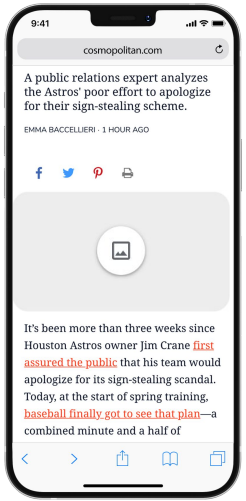
Publisher

cosmopolitan.com



Publisher

cosmopolitan.com



Header Bidder

bid request

Supply-Side Platform

Kargo SSP

Header Bidder

JavaScript code that the publisher adds to the header of their website.

We work with 2 header bidder wrapper technologies: Prebid and Index

- receives ad request call from the publisher's website
- sends out the bid request to all the connected partners

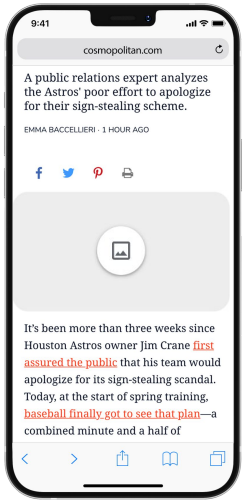
later...

- receives the bids
- selects the highest bid

Supply-Side Platform

Publisher

cosmopolitan.com



Header Bidder

bid request

bid request

bid request

bid request

Kargo SSP

SSP 1

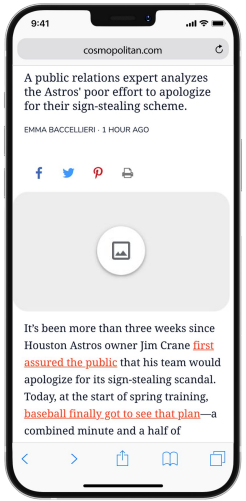
SSP 1

SSP n

Supply-Side Platform

Publisher

cosmopolitan.com



Header Bidder

Kargo SSP

Enrichment Services

SSP n

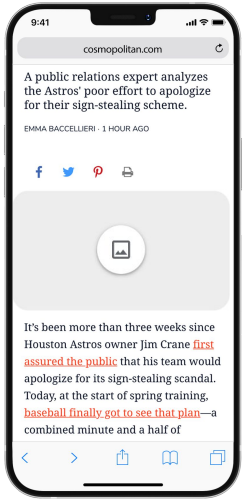
Enrichment Services

Additional information

- Geo lookup based on IP address
- Contextual information
- Bot-detection
- Brand safe
- etc.

Publisher

cosmopolitan.com



Header Bidder

Supply-Side Platform

Kargo SSP

Enrichment Services

SSP n

bid request

bid request

bid request

Demand-Side Platform

DSP 1

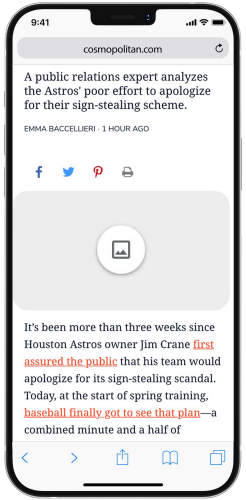
DSP 2

DSP n

Advertisers

Publisher

cosmopolitan.com



Header Bidder

Supply-Side Platform

Kargo SSP

Enrichment Services

SSP n

winning bid

winning bid

winning bid

Demand-Side Platform

DSP 1

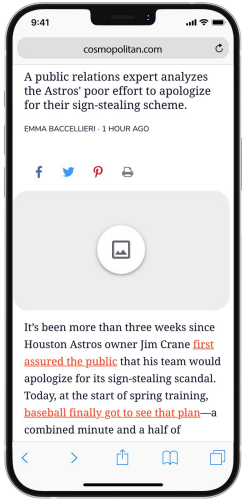
DSP 2

DSP n

Advertisers

Publisher

cosmopolitan.com



Header Bidder

Supply-Side Platform

Kargo SSP

Enrichment Services

SSP n

bid request

winning bids

Demand-Side Platform

DSP n

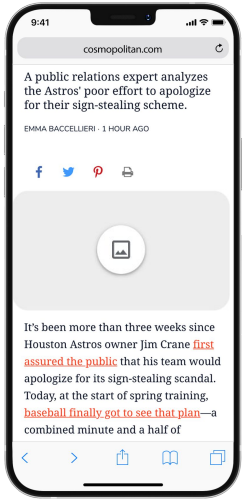
Internal Auction

ML Optimisations

Campaigns DB

Publisher

cosmopolitan.com



Header Bidder

winning bid

Supply-Side Platform

Kargo SSP

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SSP n

winning bid

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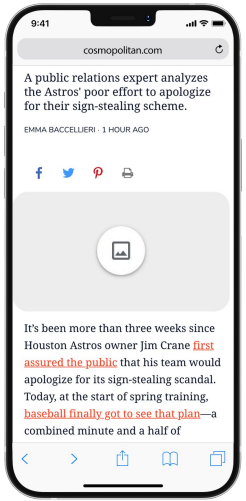

Header Bidder

winning bid

winning bids

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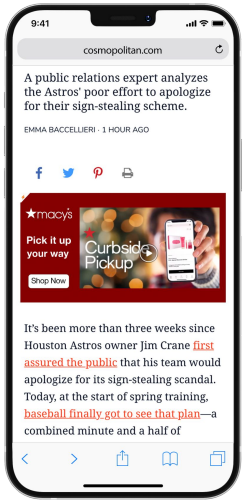


Header Bidder

Winner

Kargo SSP

Enrichment Services

SSP n

DSP n

Internal Auction

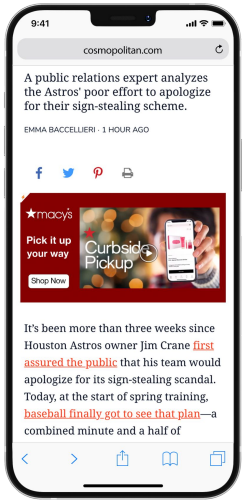
ML Optimisations

Campaigns DB

What happens next?

Publisher

cosmopolitan.com



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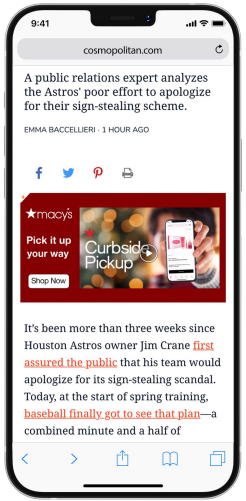
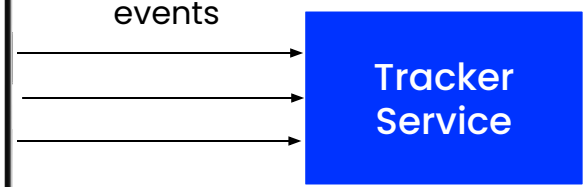


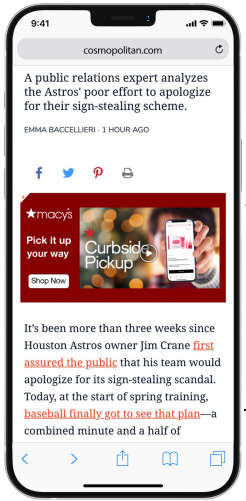
tracking events



Tracker Service

Publisher

cosmopolitan.com



tracking events

tracking events

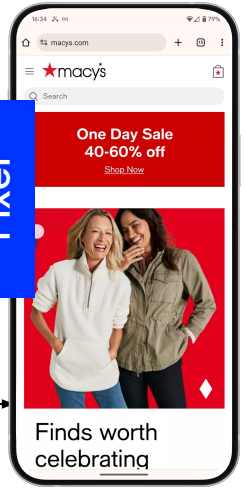
Tracker Service

Kargo Pixel

click on ad, load advertiser site

Advertiser

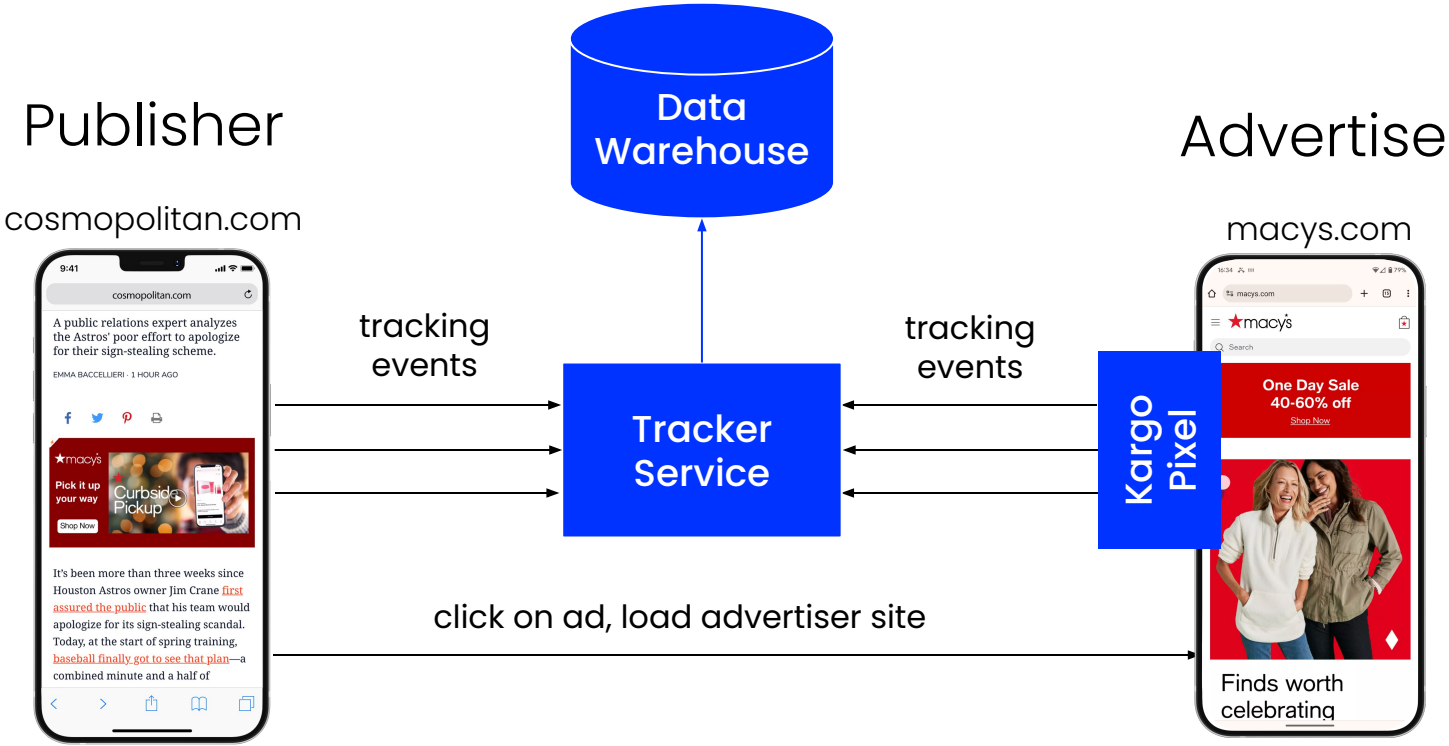
macys.com



Pixel
Javascript snippet that the advertiser puts on their site.

Sends events to Kargo when certain events occur:

- Page load
- After x seconds
- Add to cart
- Purchase
- etc.



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INFRASTRUCTURE

Tooling

Go, React, JavaScript	AWS - EKS, S3, Firehose, Kinesis
Infra - AWS Cloudwatch and Prometheus with various kubernetes plugins App - Telegraf exporting to InfluxDb Presented through Grafana	Snowflake, databricks
mix of github actions and TravisCI	Papertrail and so much more ...

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Friday, May 24th 2024

COMPUTING PROJECT EXPO '24

Department of Computing & Mathemathics SETU Waterford

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LOCATION: CORK ROAD CAMPUS, WATERFORD CITY, X91 K0EK

Thank You!

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