

Part 4

Diagrams and data visualization

Alexei Kaptelev

- 1. Key principles*
- 2. Templates: fonts, colors, backgrounds*
- 3. Typography*
- 4. Illustrations: photos, drawings, icons*
-  *5. Chart-like diagrams*
- 6. Data visualisation*

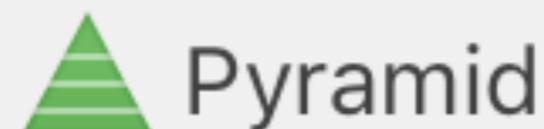
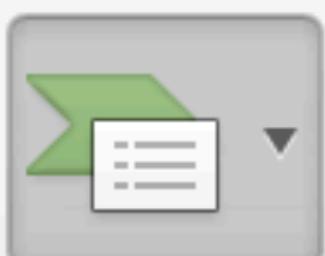
- 1. Key principles*
- 2. Templates: fonts, colors, backgrounds*
- 3. Typography*
- 4. Illustrations: photos, drawings, icons*
- 5. Chart-like diagrams*
- 6. Data visualisation*



Types of diagrams



Shapes



Action



Comment

Text
BoxHe
F

12

1

5

4

3

2

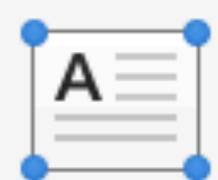
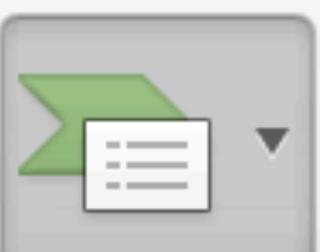
1

0

1



Shapes



List

Process

Cycle

Hierarchy

Relationship

Matrix

Pyramid

Picture

Action

Comment

Text
BoxHe
F

12

1

5

4

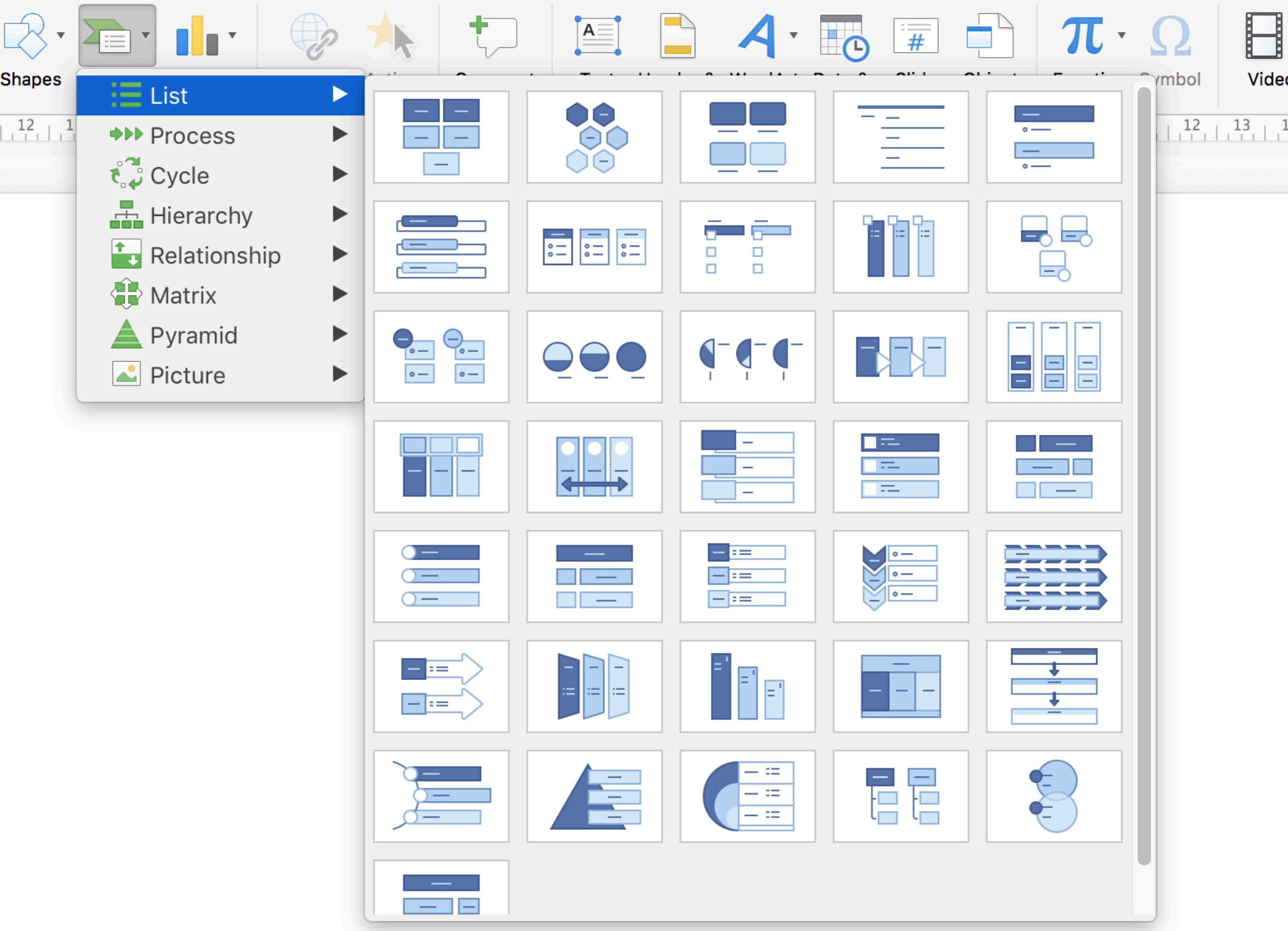
3

2

1

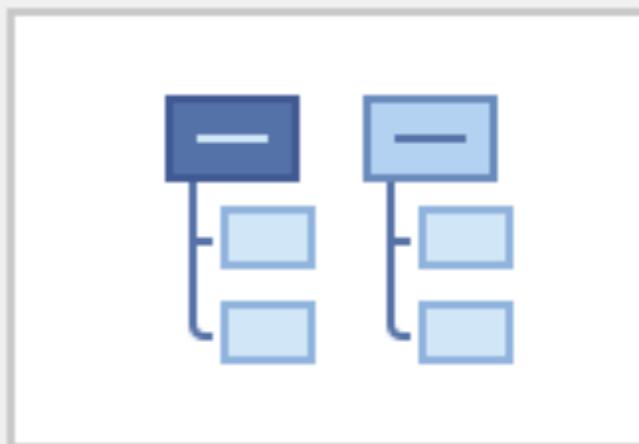
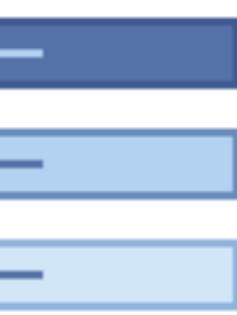
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1

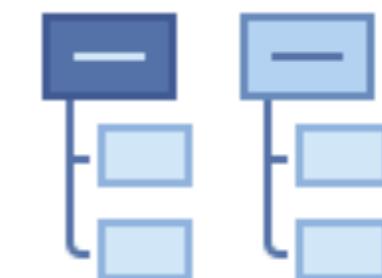
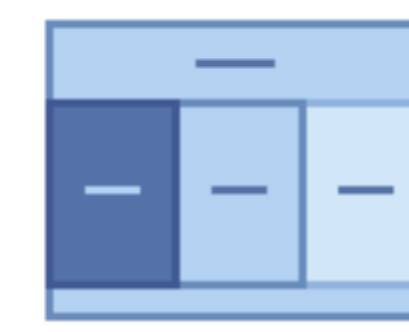
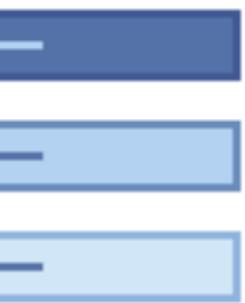




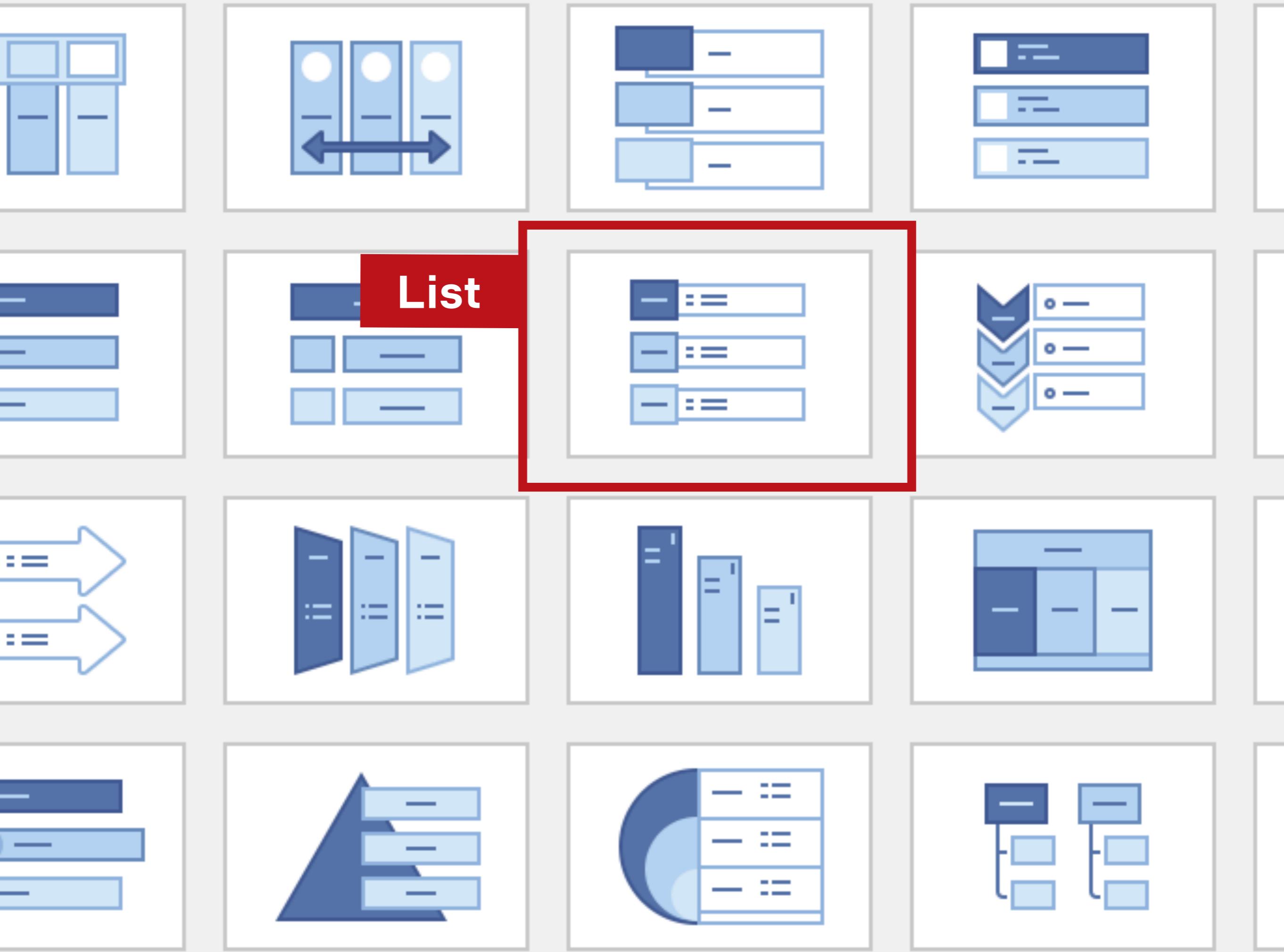


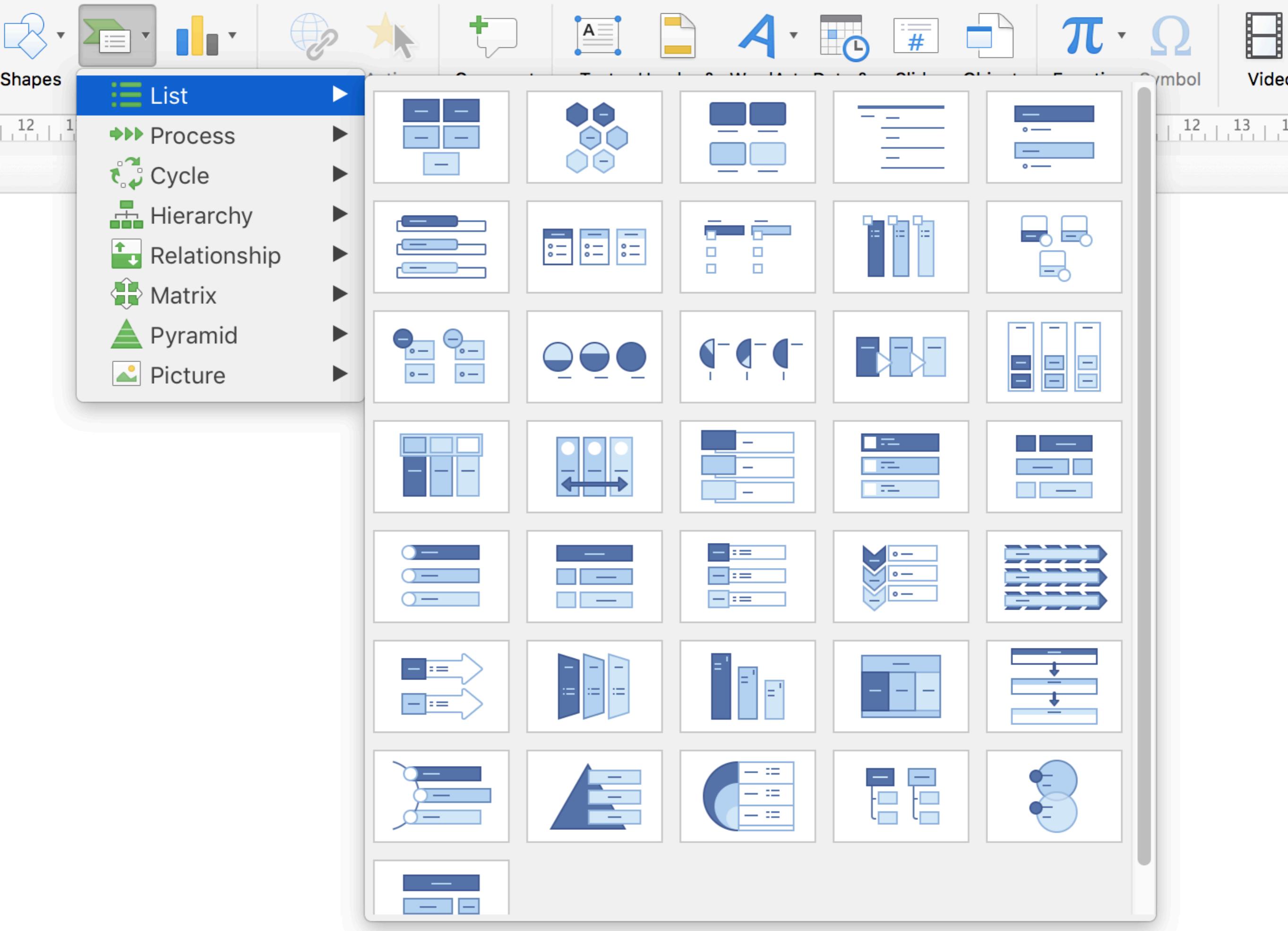


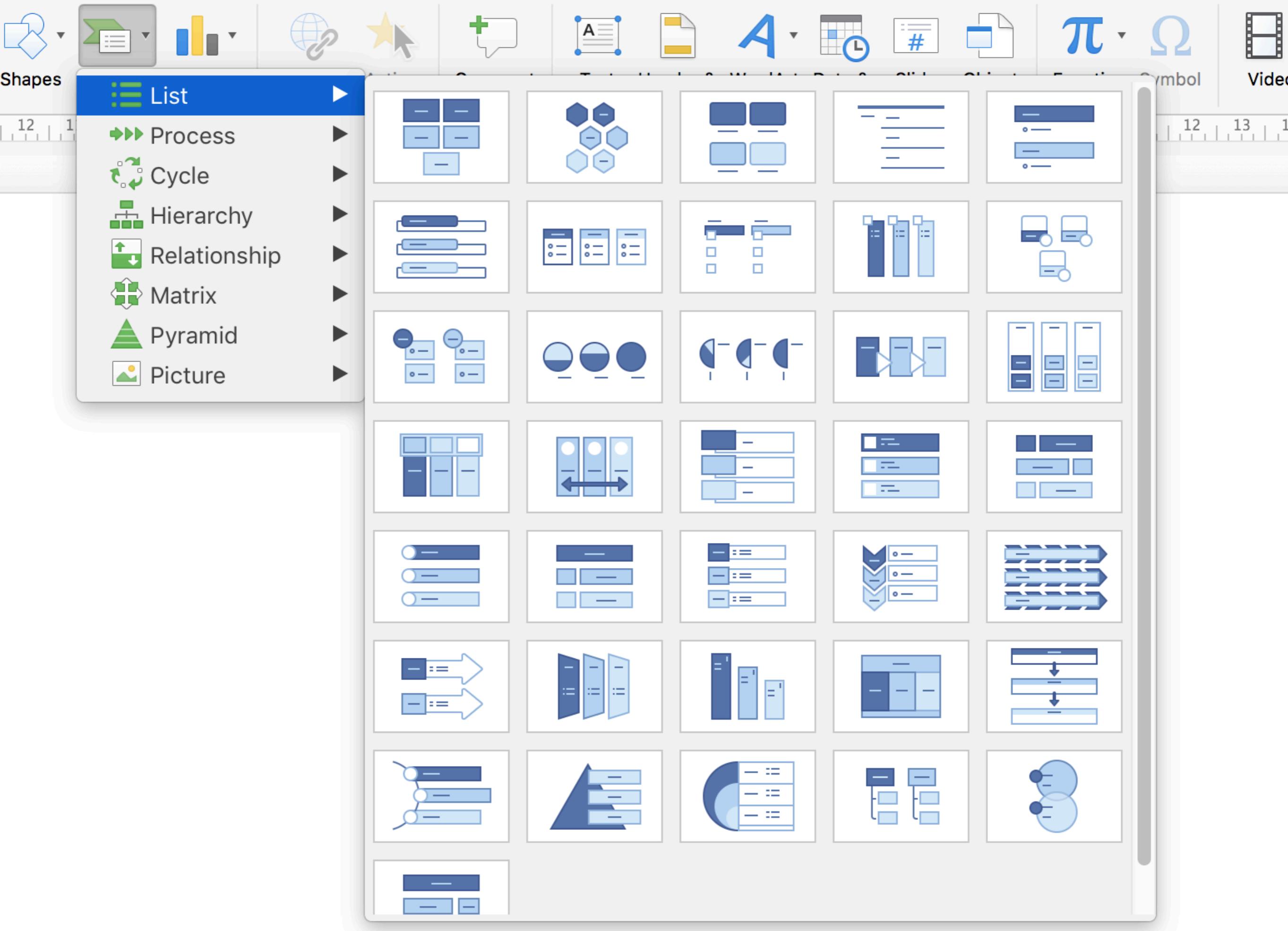
Relationships

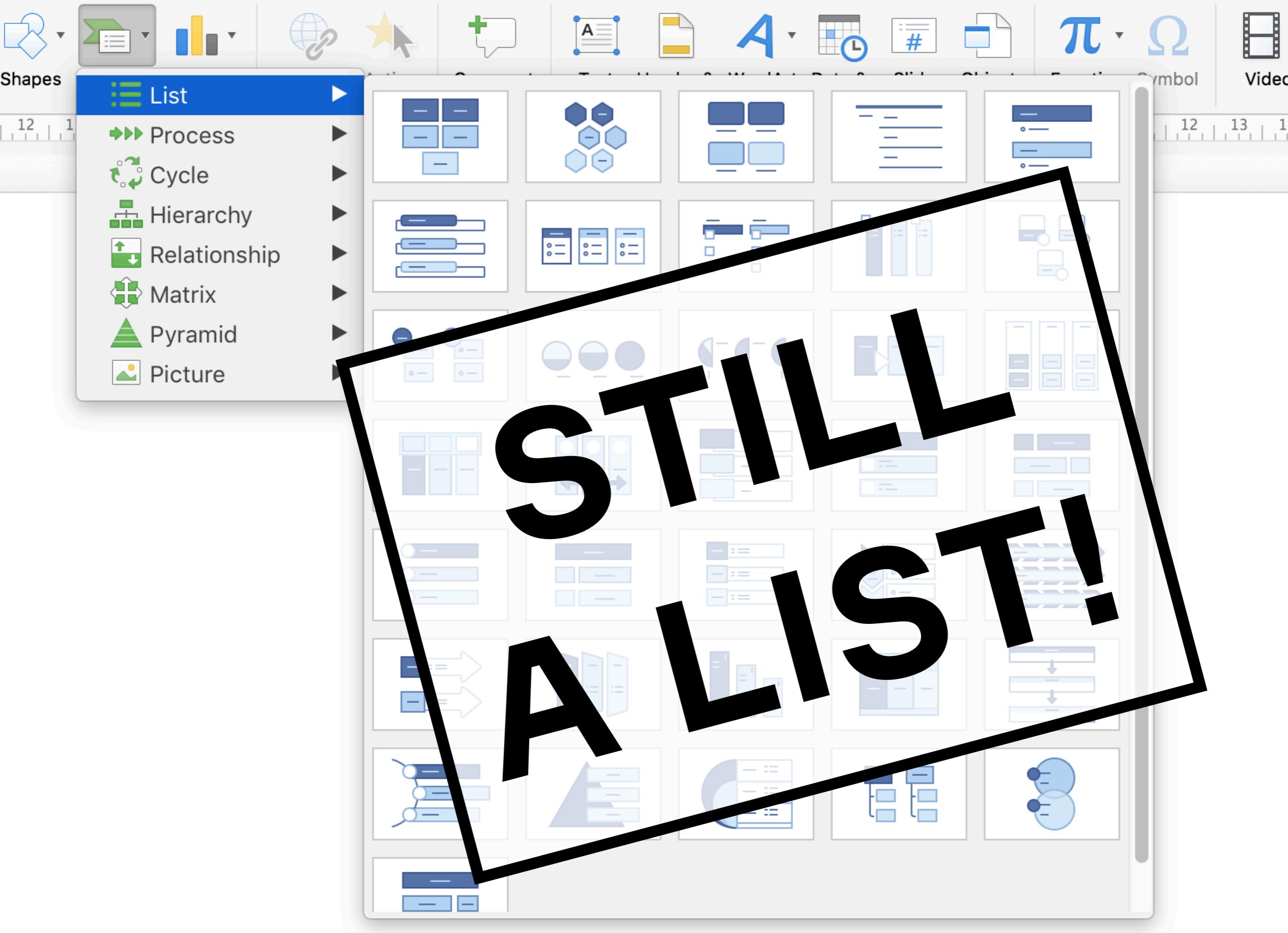












STILL
A LIST!

— *If you want* —

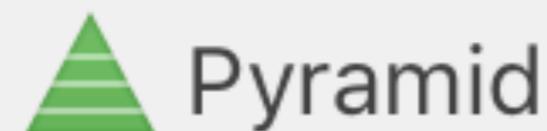
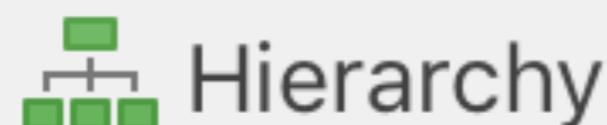
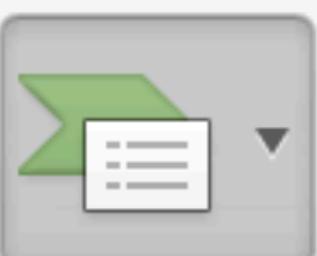
A BETTER LIST

— *use* —

PICTOGRAMS



Shapes



Action



Comment

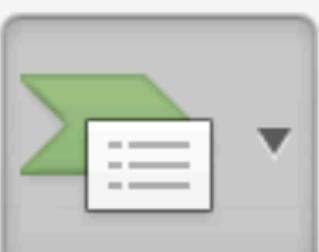
Text
BoxHe
F

12 1

5 4 3 2 1 0 1



Shapes



List

Process

Cycle

Hierarchy

Relationship

Matrix

Pyramid

Picture

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4

3

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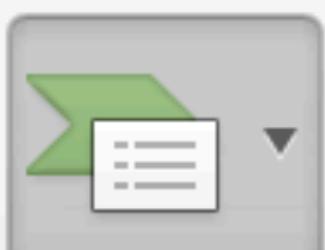
1

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1



Shapes



List



Process



Cycle



Action



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BoxHe
F

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1

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3

2

1

0

1

Hierarchy

Relationship

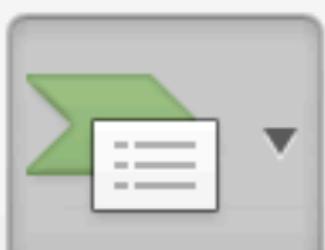
Matrix

Pyramid

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Shapes



List



Process



Cycle



Action



Comment



Text Box

He F

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Hierarchy

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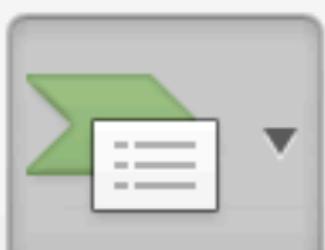
Matrix

Pyramid

Picture



Shapes



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Process



Cycle



Action

Hierarchy

Relationship

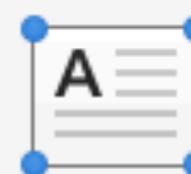
Matrix

Pyramid

Picture



Comment



Text Box

He
F

12

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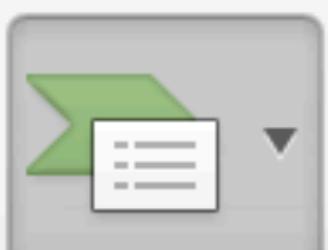
1

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1



Shapes



List



Process



Cycle



Action



Comment



Text Box

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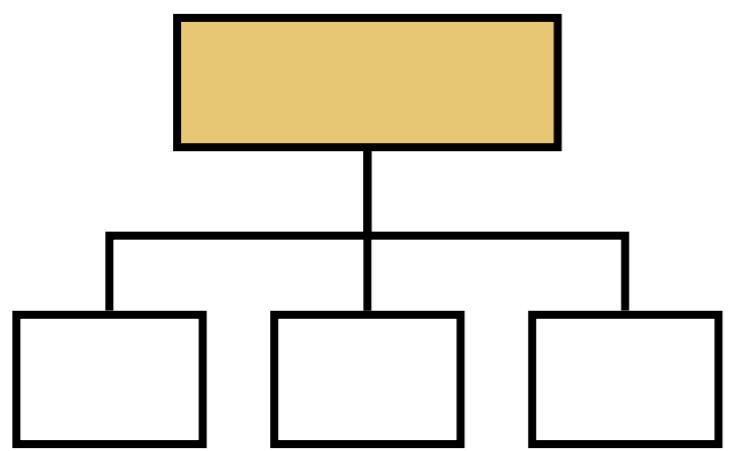
Hierarchy

Relationship

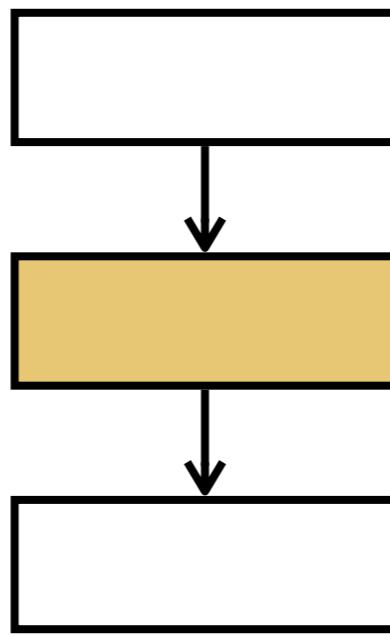
Matrix

Pyramid

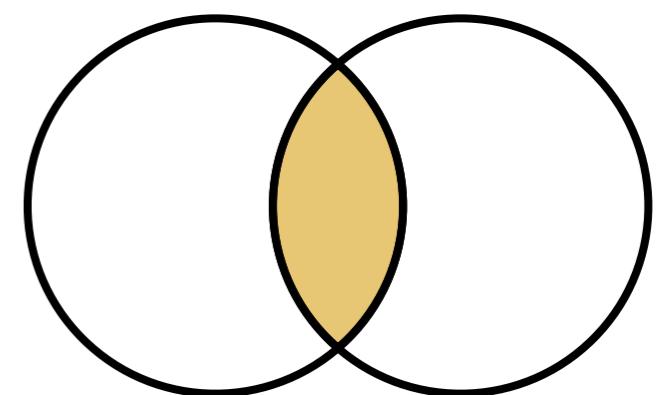
Picture



Hierarchy



Process



Relationships

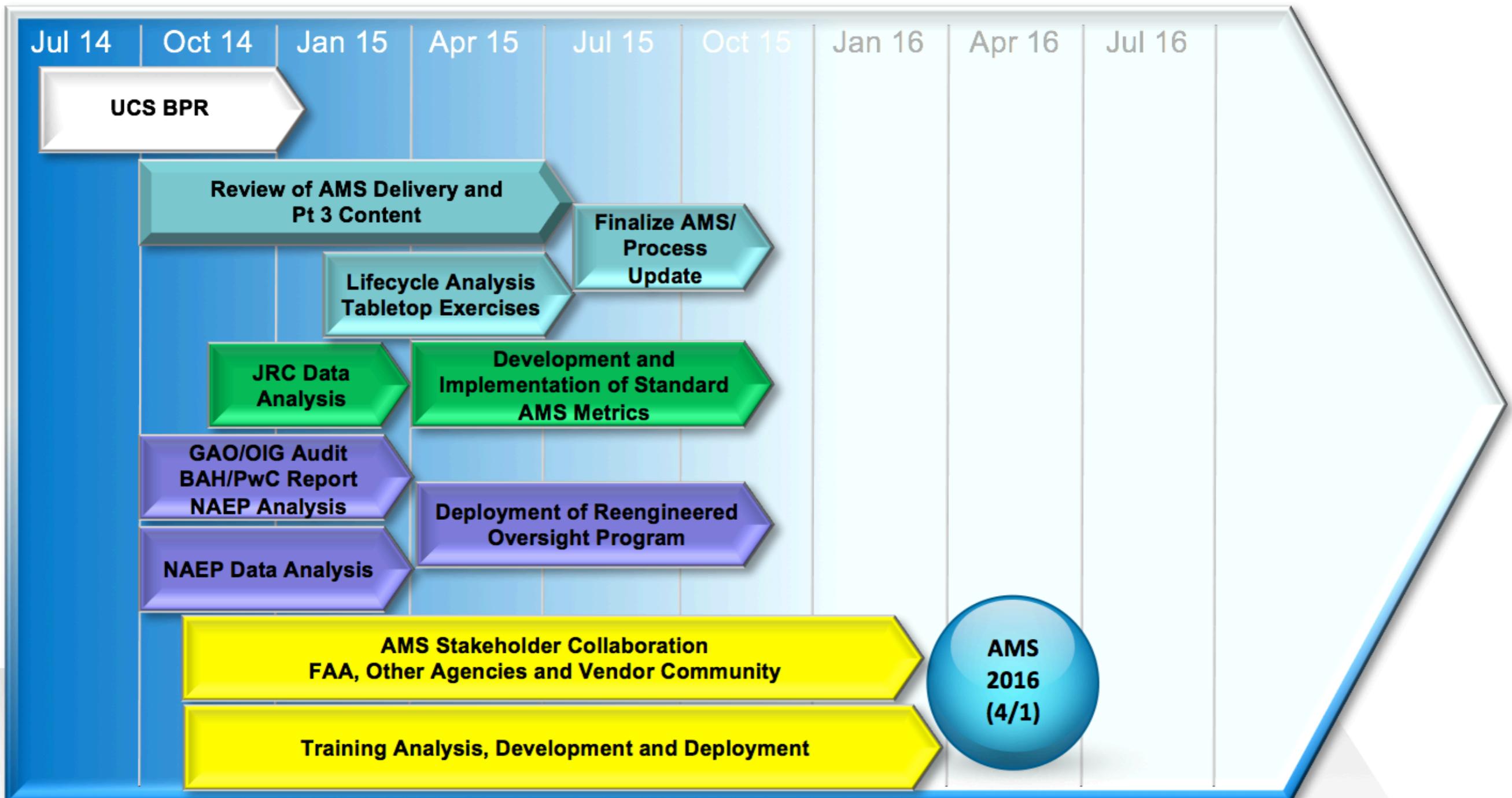
— *Good* —

DIAGRAMS

— *are* —

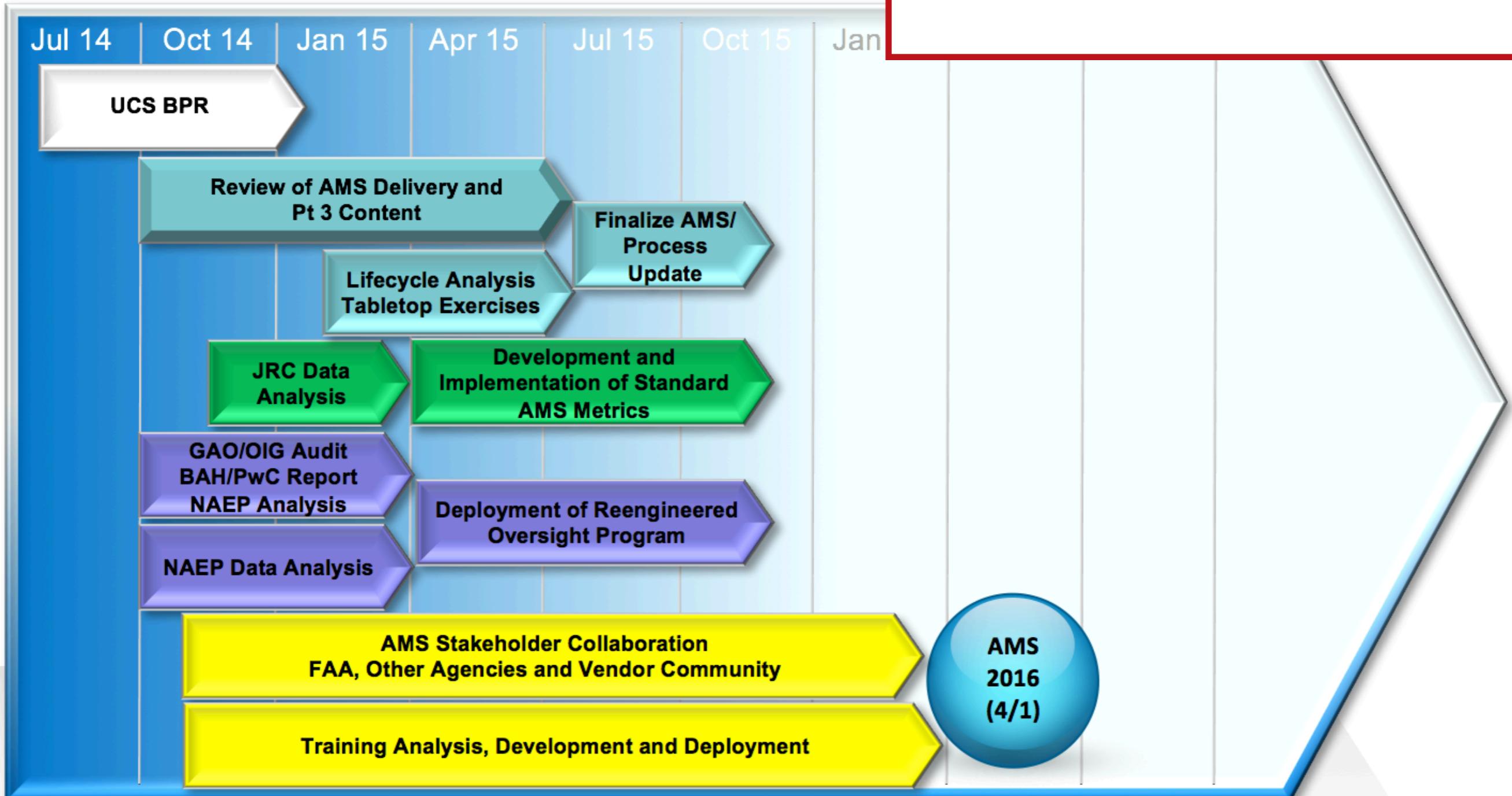
EXPENSIVE

Schedule



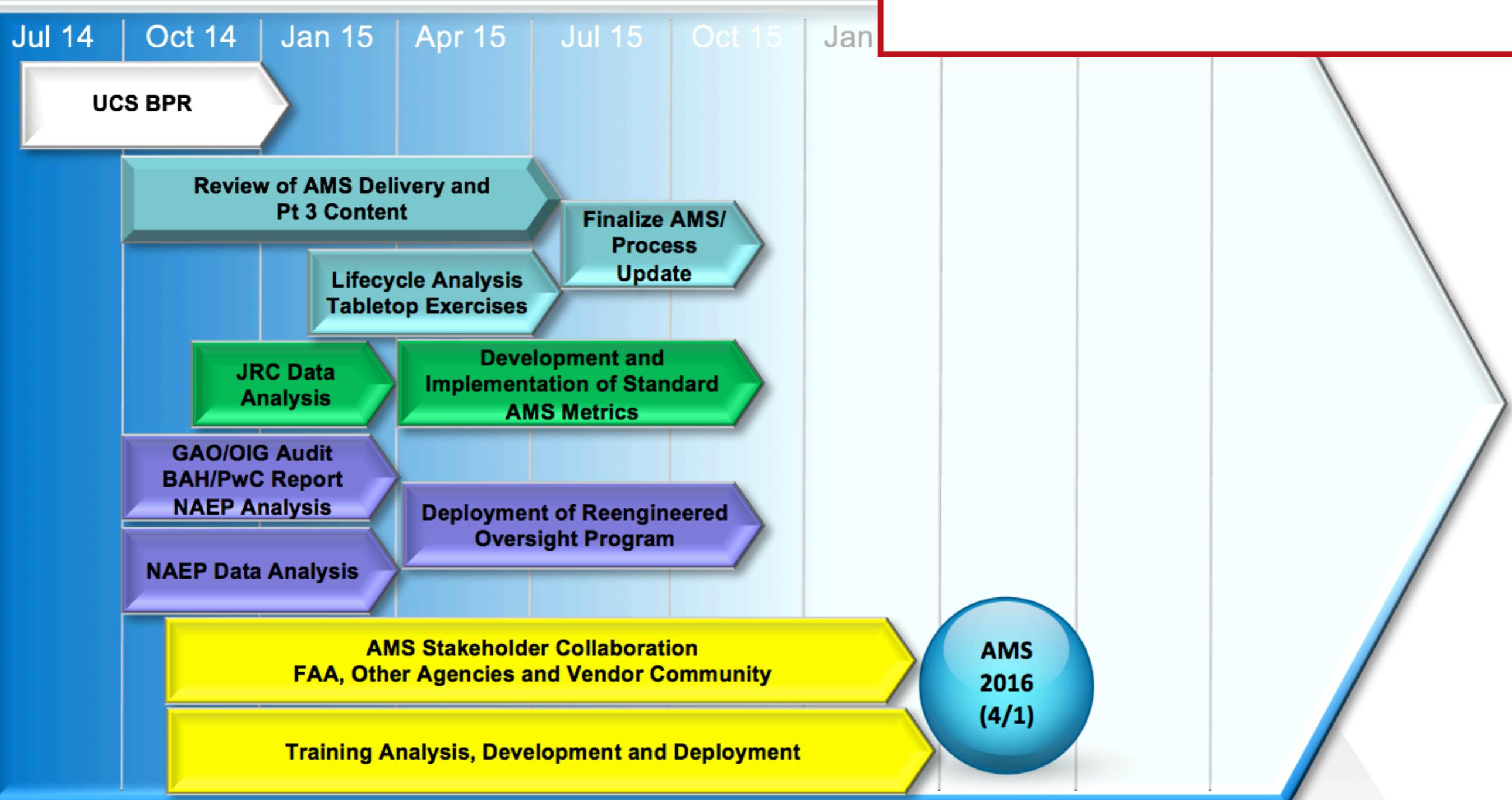
Schedule

Too much color



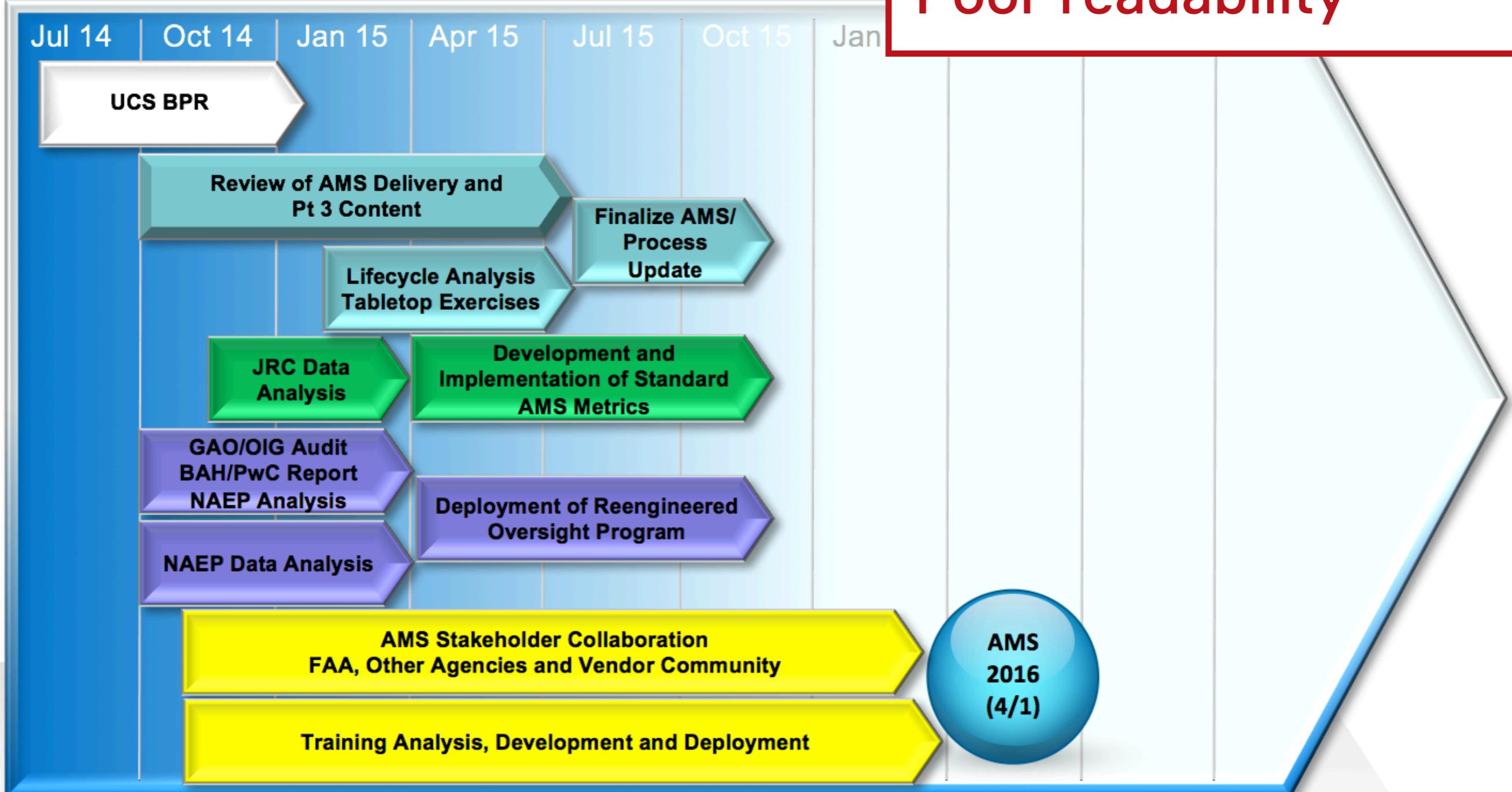
Schedule

Too much color
Too much decoration

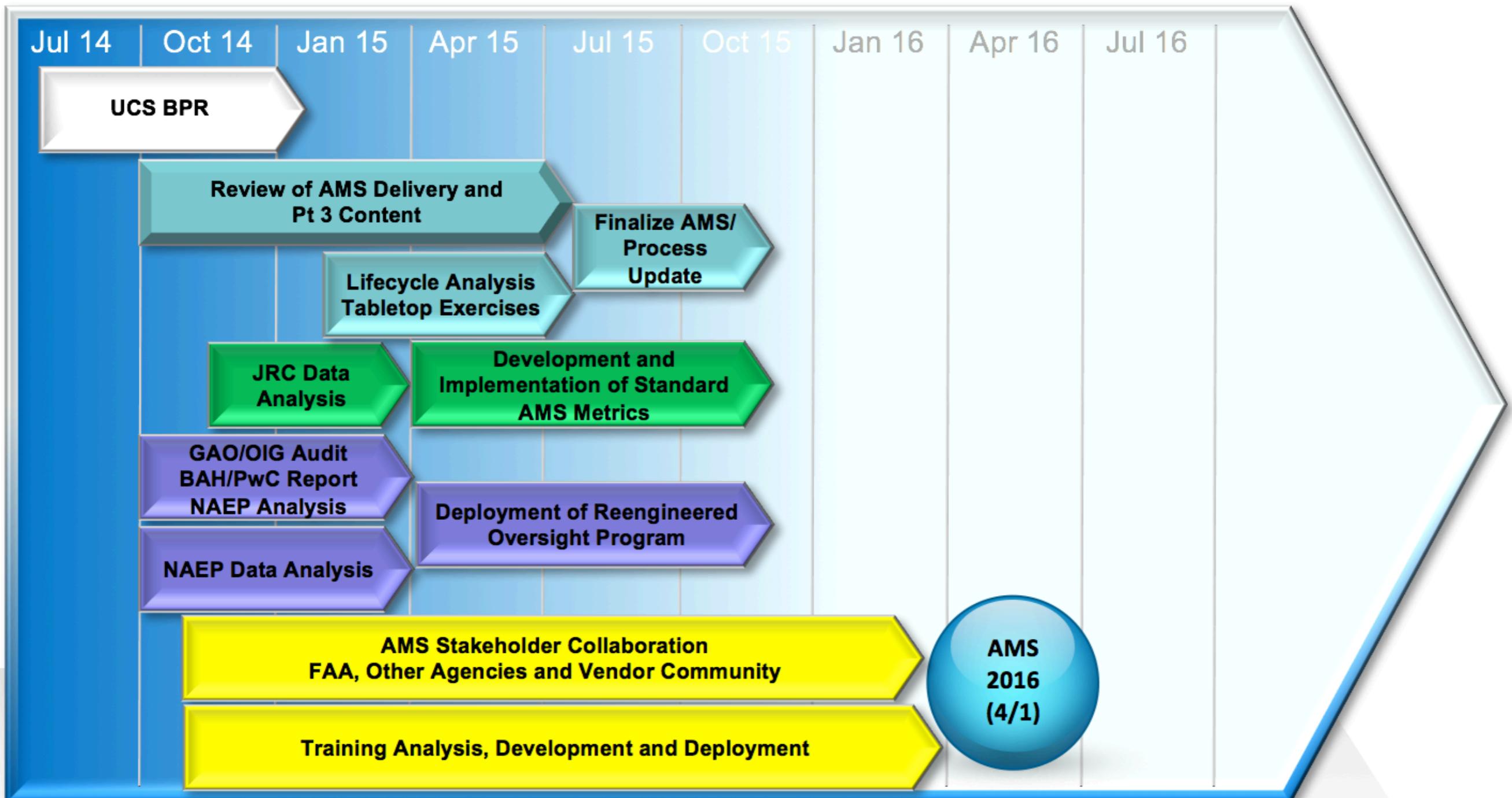


Schedule

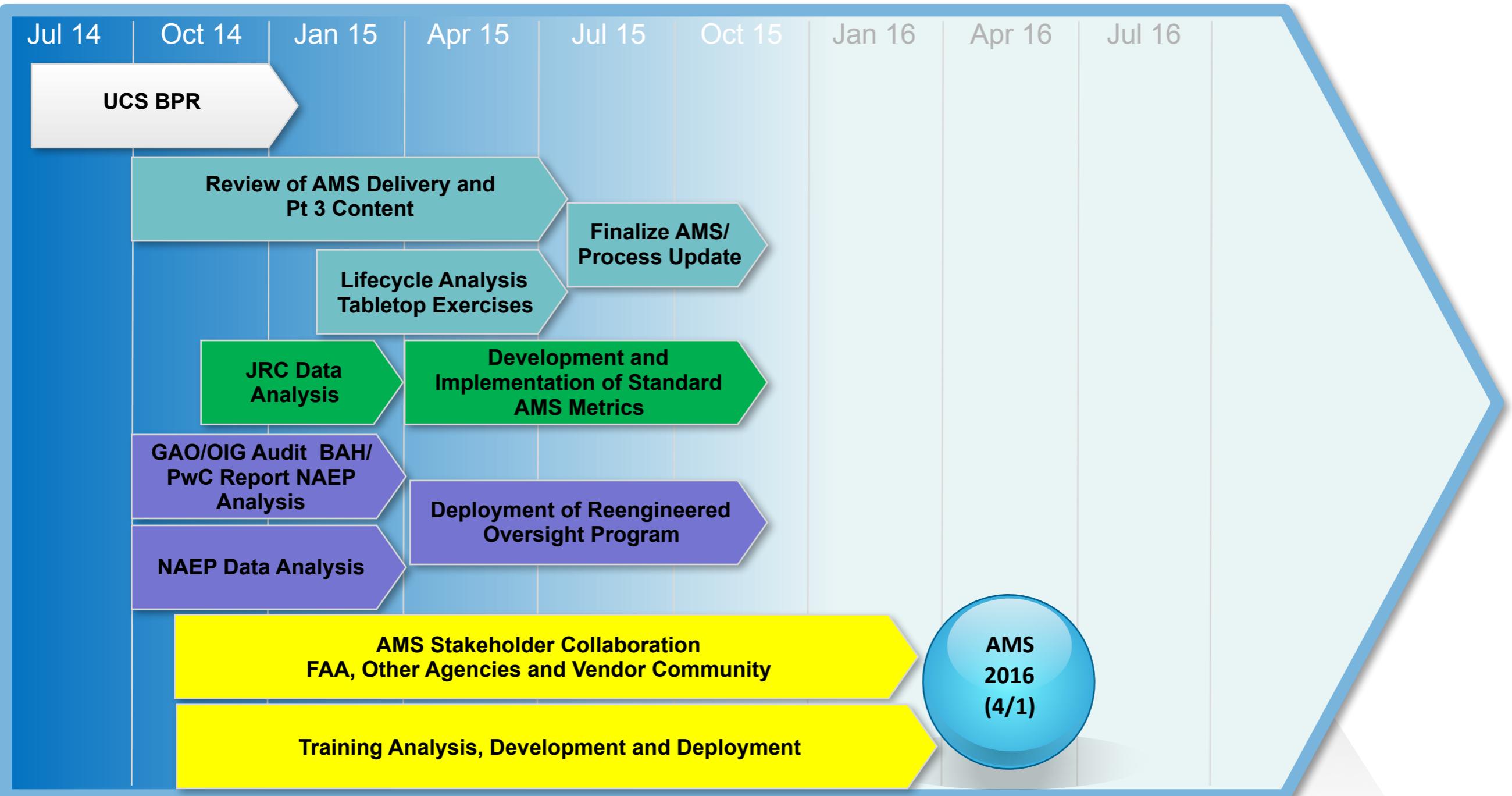
Too much color
Too much decoration
Poor readability



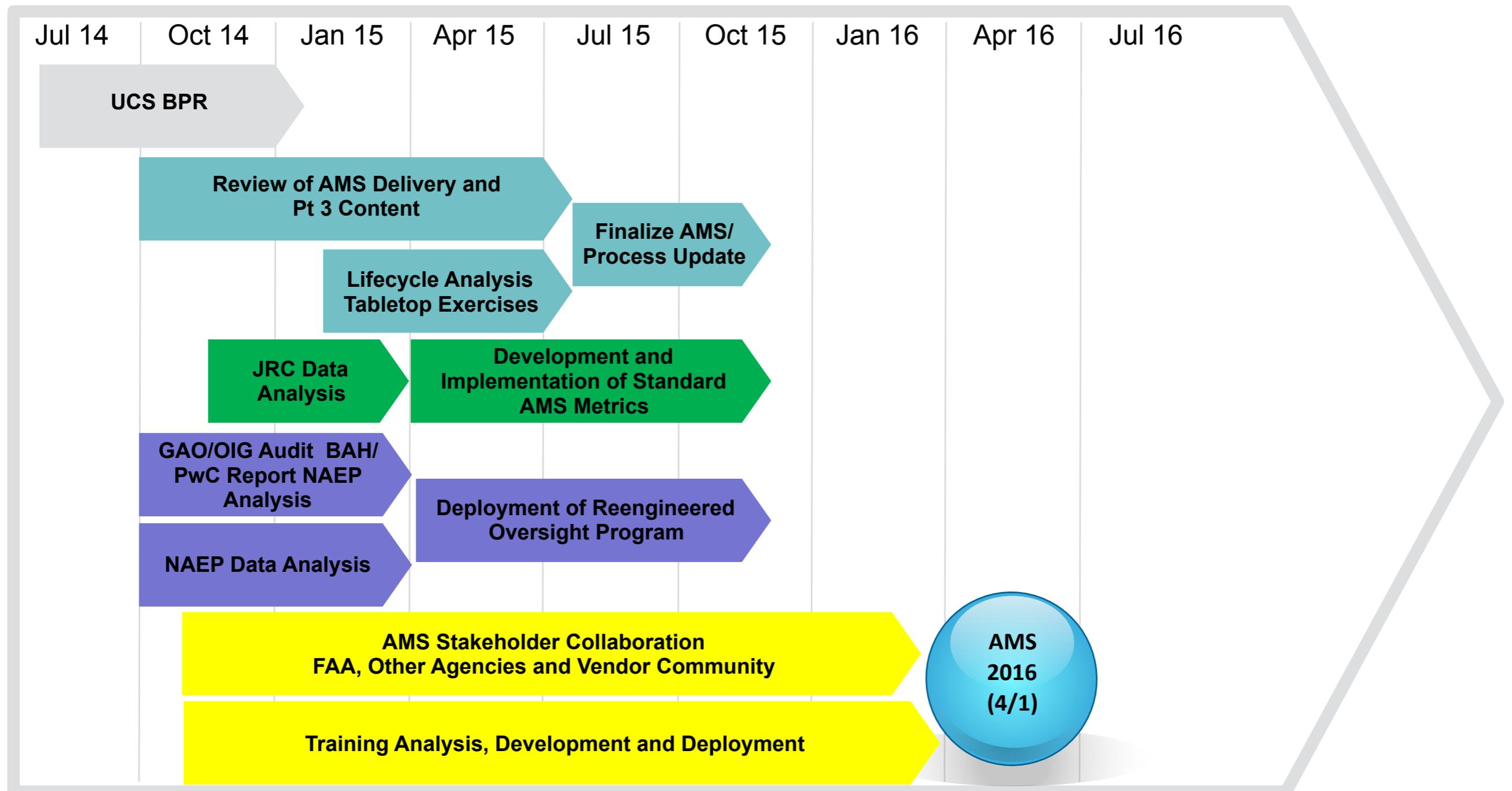
Schedule



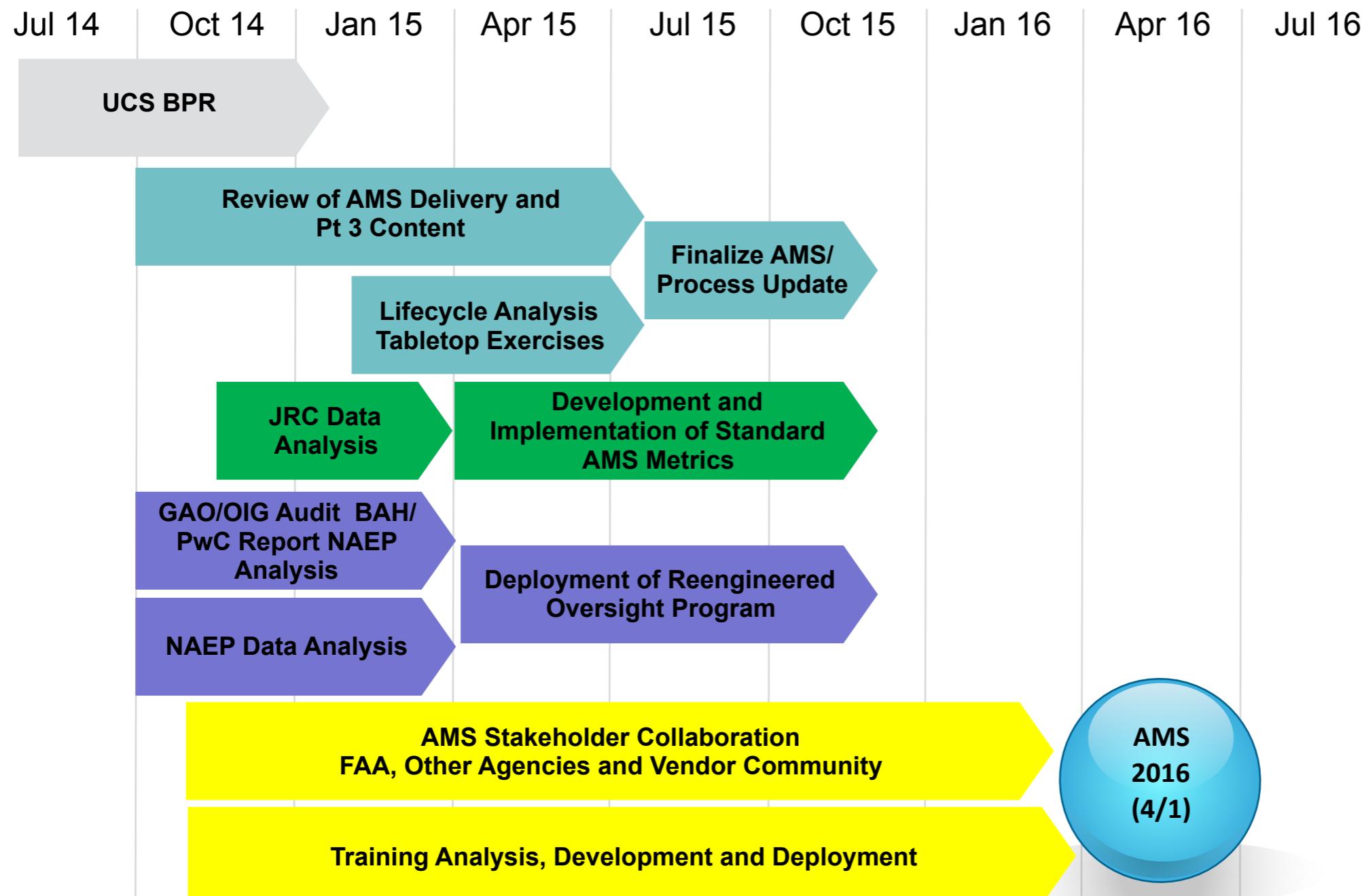
Schedule



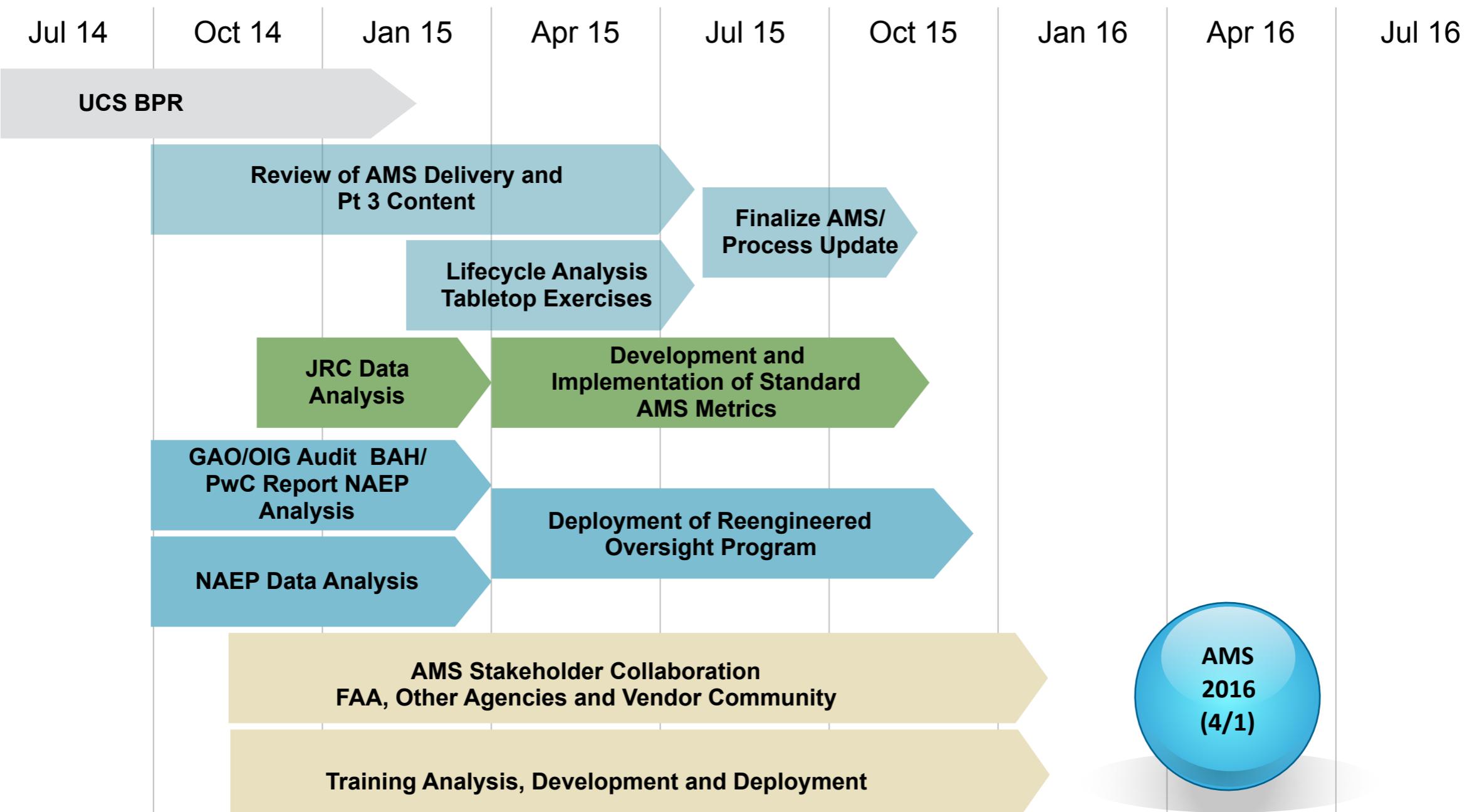
Schedule



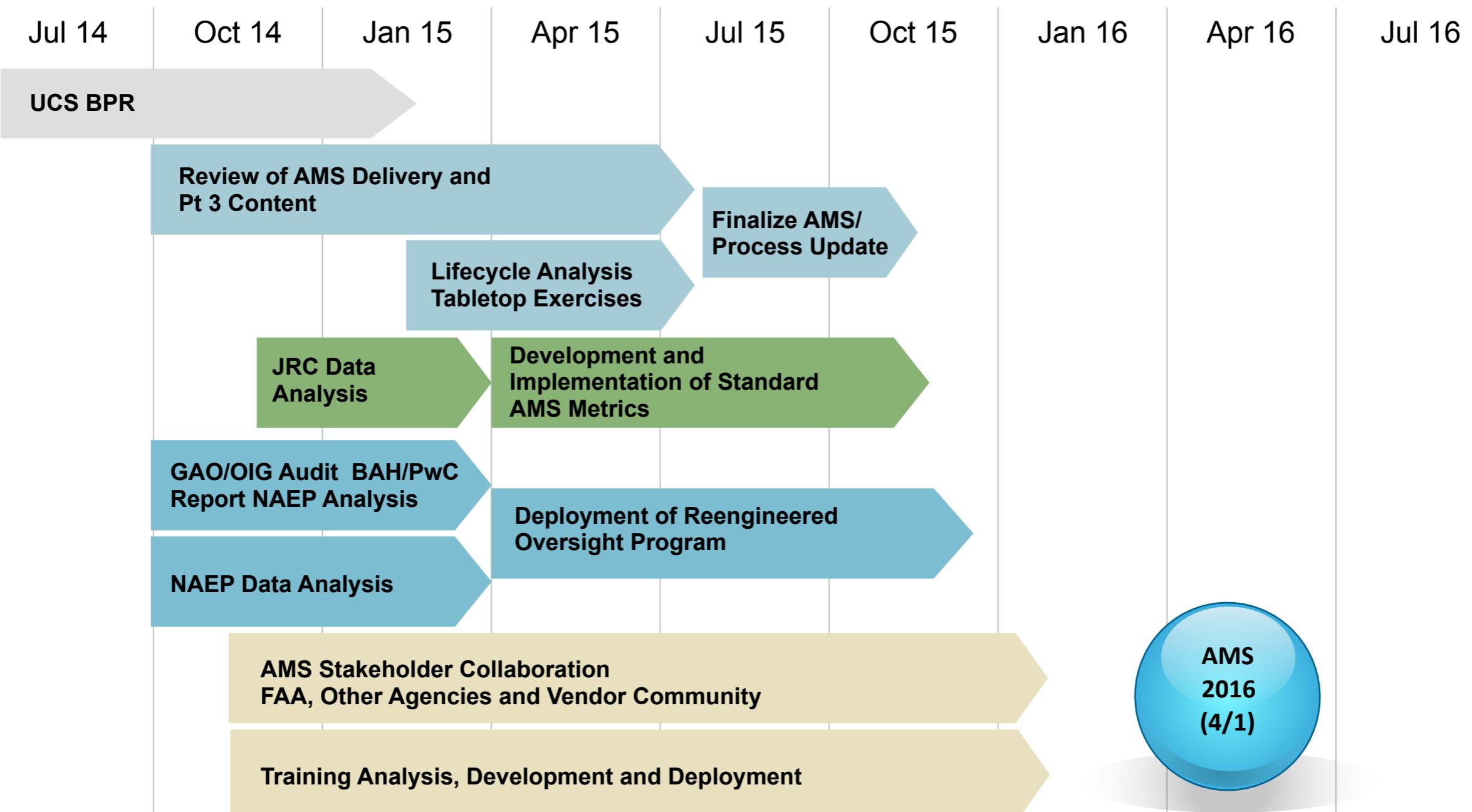
Schedule



Schedule



Schedule

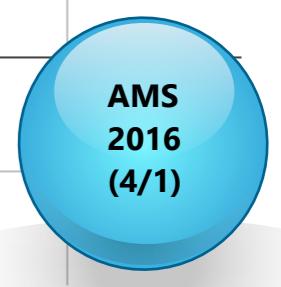


Omg! A Gantt Chart
is not really a chart!
It's a table!

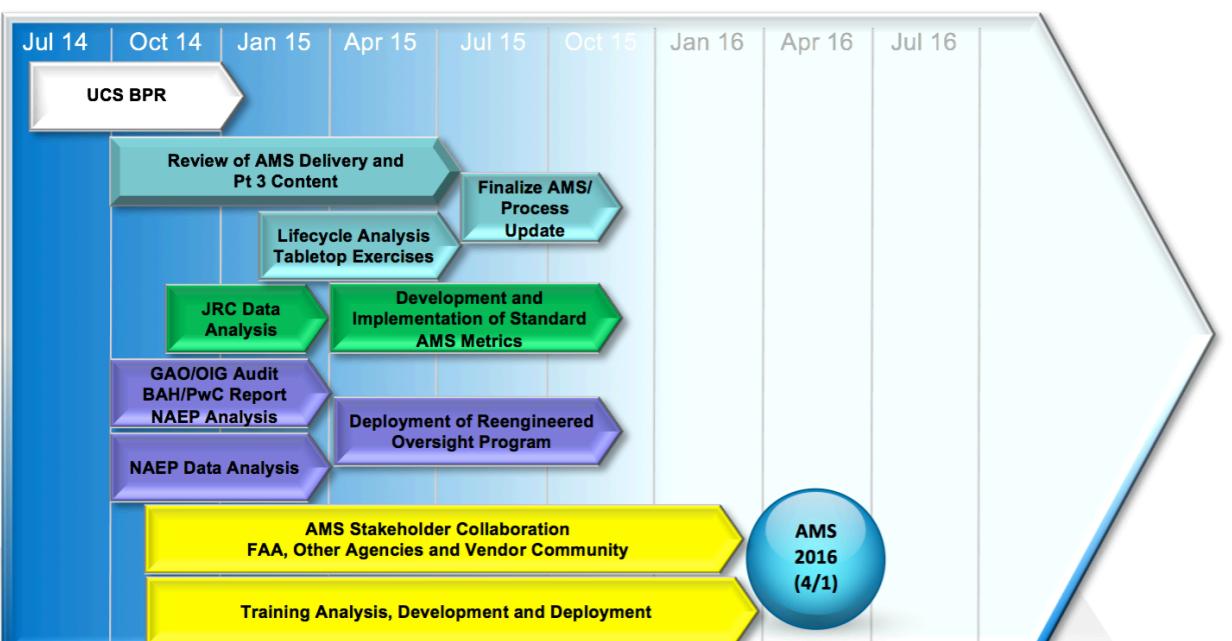


Schedule

	Jul 14	Oct 14	Jan 15	Apr 15	Jul 15	Oct 15	Jan 16	Apr 16	Jul 16
1 UCS BPR									
2 Review of AMS Delivery and Pt 3 Content									
2 Lifecycle Analysis Tabletop Exercises									
Finalize AMS/ Process Update									
3 JRC Data Analysis									
3 Development and Implementation of Standard AMS Metrics									
4 GAO/OIG Audit BAH/PwC Report NAEP Analysis									
4 NAEP Data Analysis									
Deployment of Reengineered Oversight Program									
5 AMS Stakeholder Collaboration FAA, Other Agencies and Vendor Community									
5 Training Analysis, Development and Deployment									



Schedule



AMS 2016



Federal Aviation
Administration

7

Schedule

	Jul 14	Oct 14	Jan 15	Apr 15	Jul 15	Oct 15	Jan 16	Apr 16	Jul 16
1 UCS BPR									
Review of AMS Delivery and Pt 3 Content									
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Training Analysis, Development and Deployment									

AMS 2016 (4/1)

AMS 2016



Federal Aviation
Administration

24

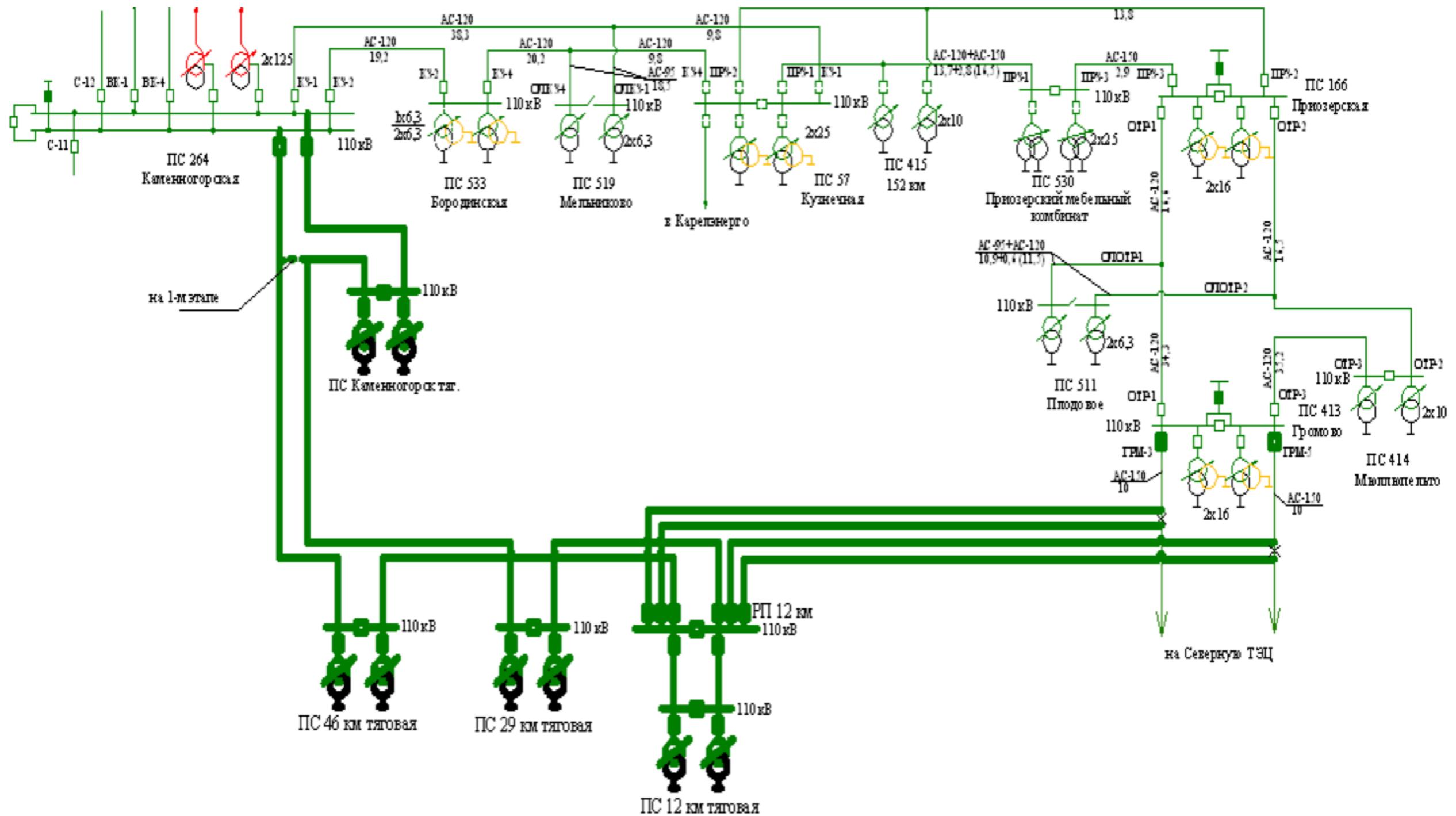
- Do we -

REALLY

- need a -

CHART?

Lorem ipsum dolor sit amet



Praesent accumsan



Maecenas magna
felis, volutpat a nisi
vulputate, malesuada
congue sapien



Sed convallis
– arcu congue
– mollis neque suscipit
– rutrum libero



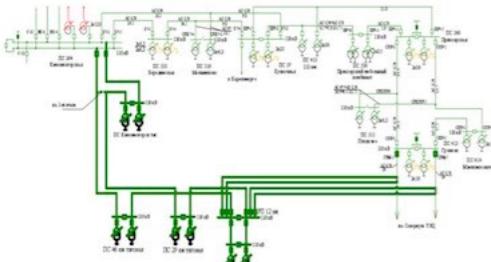
Suspendisse
imperdiet ipsum quis
efficitur convallis



Praesent accumsan

Maecenas magna felis, volutpat a nisi vulputate, malesuada congue sapien

Схема присоединения к сети новых ПС 110 кВ



Текущие проекты

Клиенты

- Взаимодействие через Интернет, единый КЦ
- Ускорение техприсоединения (TEKLA, PrimaVera, деятельность застройщика)
- Борьба с бездоговорниками, smart metering & billing

Технологии

- Наблюдаемость сети (СУПА, КГИС, мобильные рабочие места, SCADA)
- Диспетчеризация и управление аварийно-восстановительными работами
- Управление инвестициями (ИнвестПро, ал. ТХ, КГИС)

Организация

- Корпоративный университет
- Оптимизация организационной структуры
- Новые технологии менеджмента

Клиенты



Взаимодействие
через Интернет,
единий КЦ



Ускорение технического
присоединения
– TEKLA
– PrimaVera
– деятельность застройщика



Борьба с бездоговорниками,
smart metering & billing



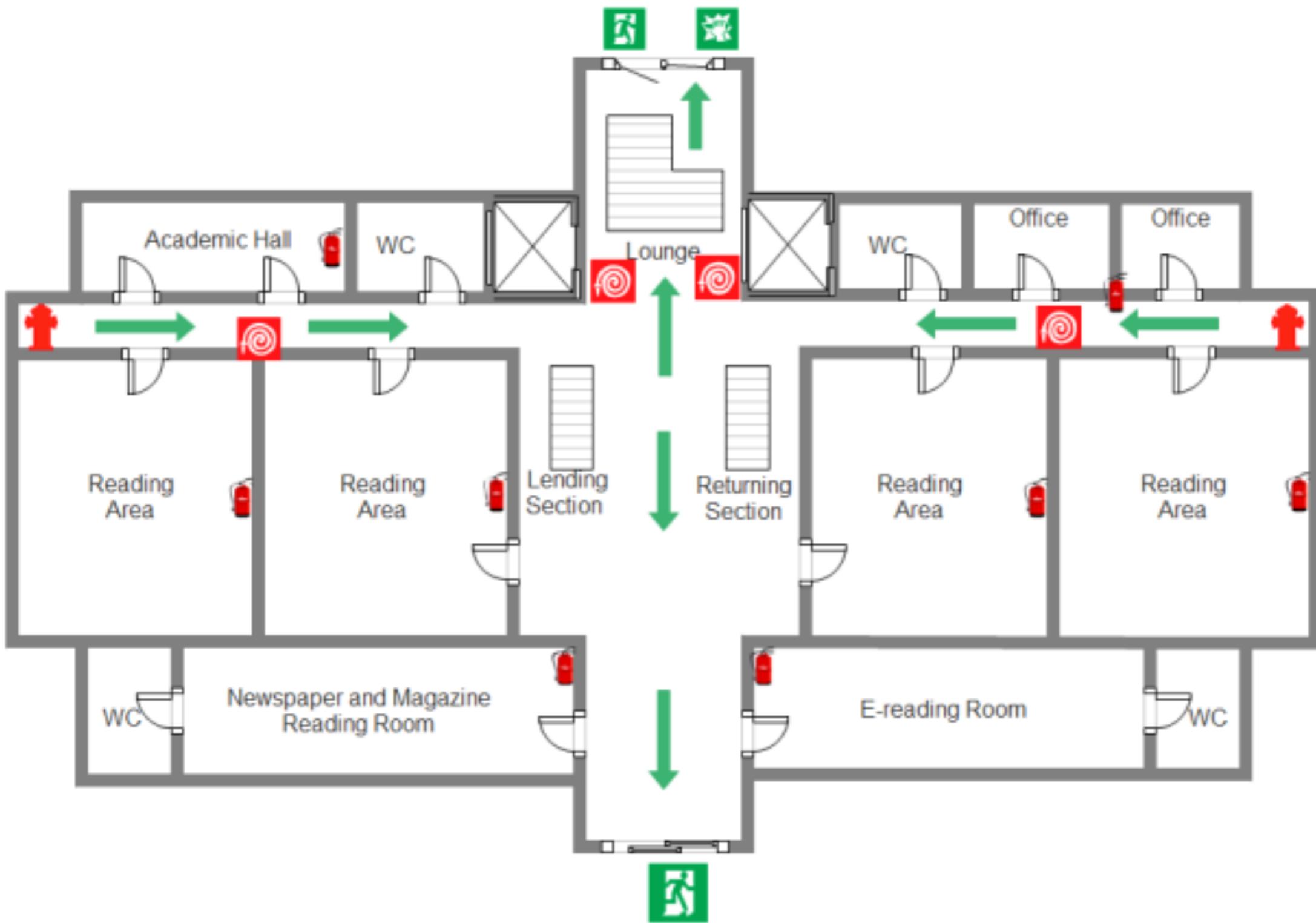
Взаимодействие через Интернет, единый КЦ

1 10 20 30 40 50+

Amount of people in the audience

What will they
DO DIFFERENTLY
after seeing the chart?

Fire Evacuation Plan of School Library



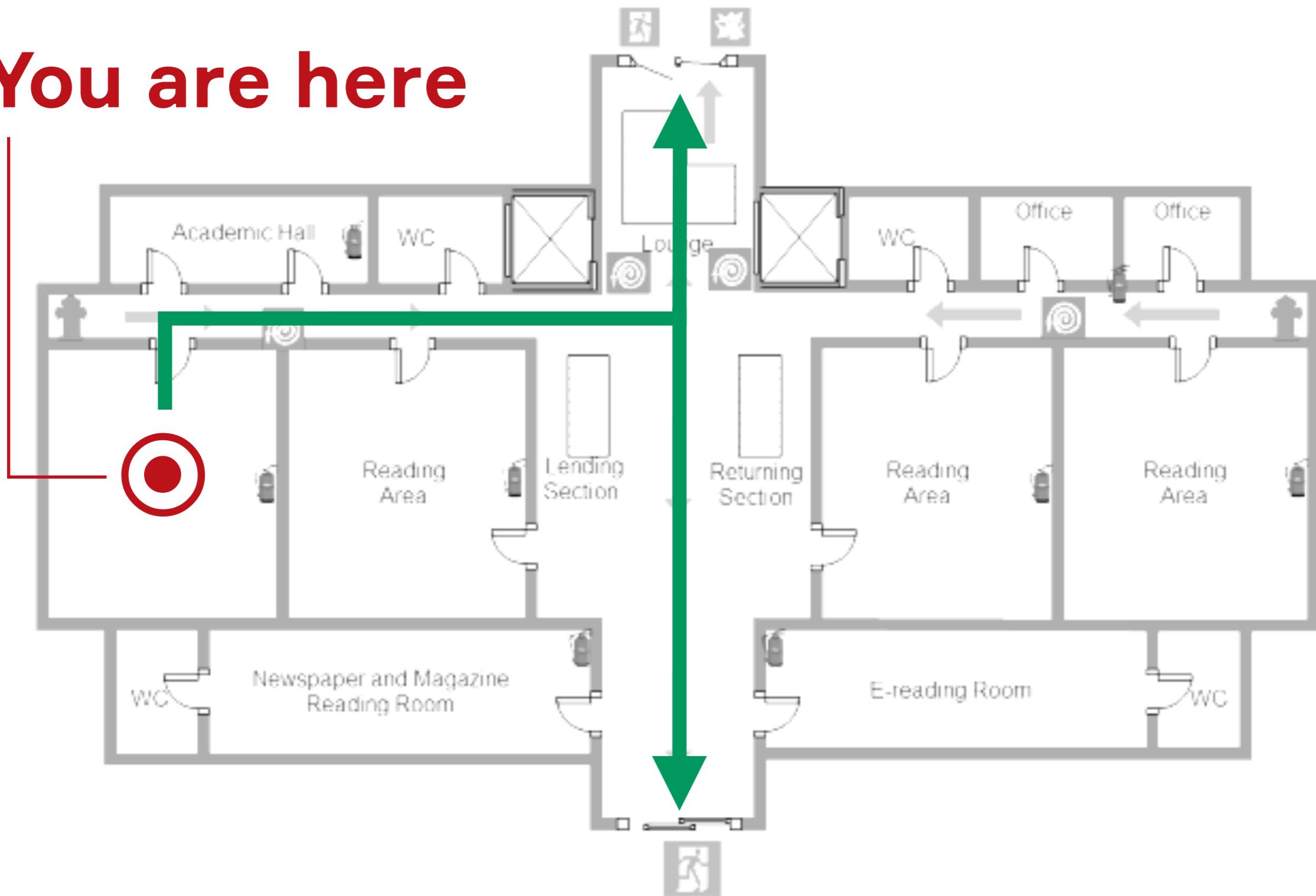
Fire Evacuation Plan of School Library

You are here



Fire Evacuation Plan of School Library

You are here



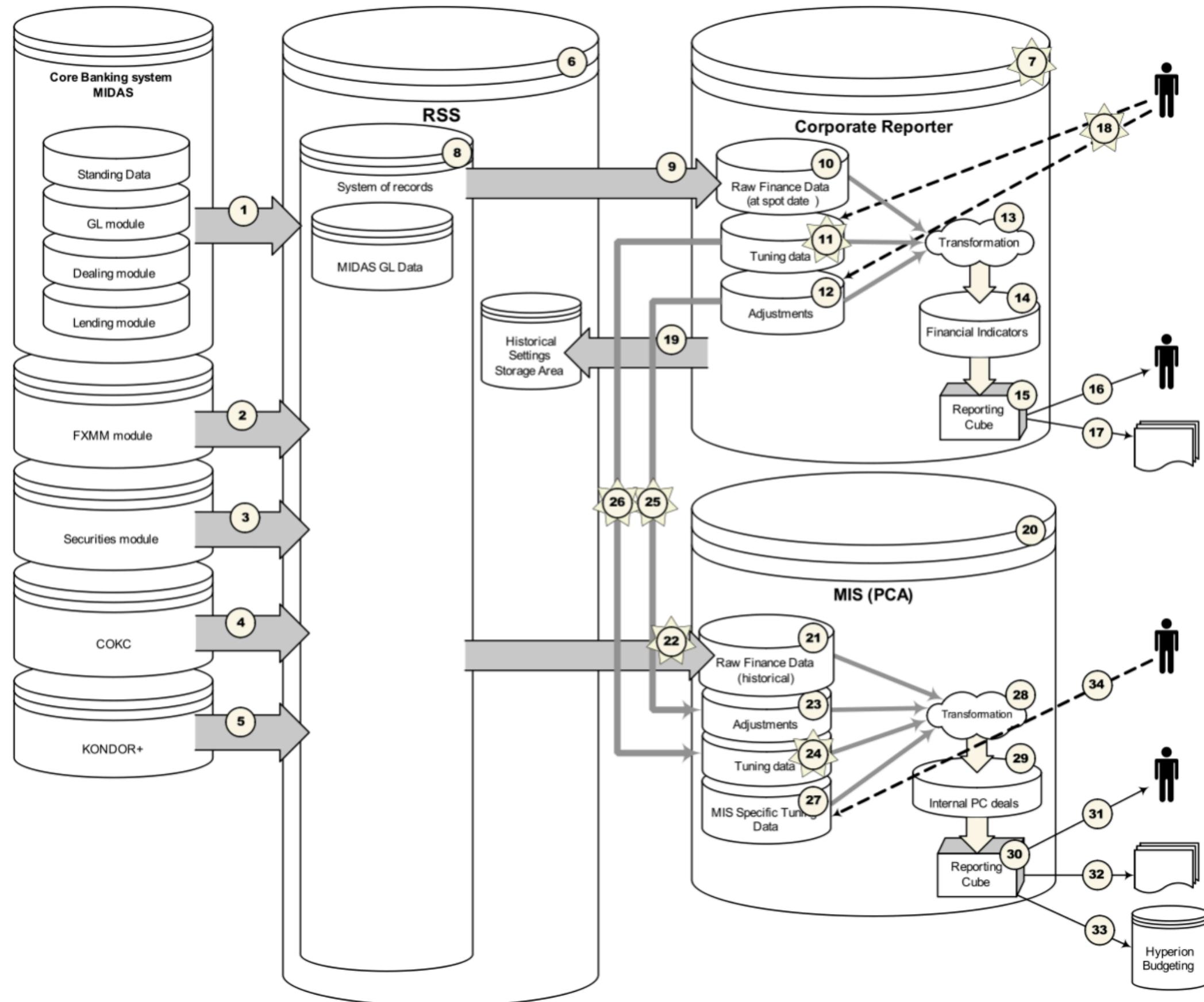
It's all about

CONTRAST

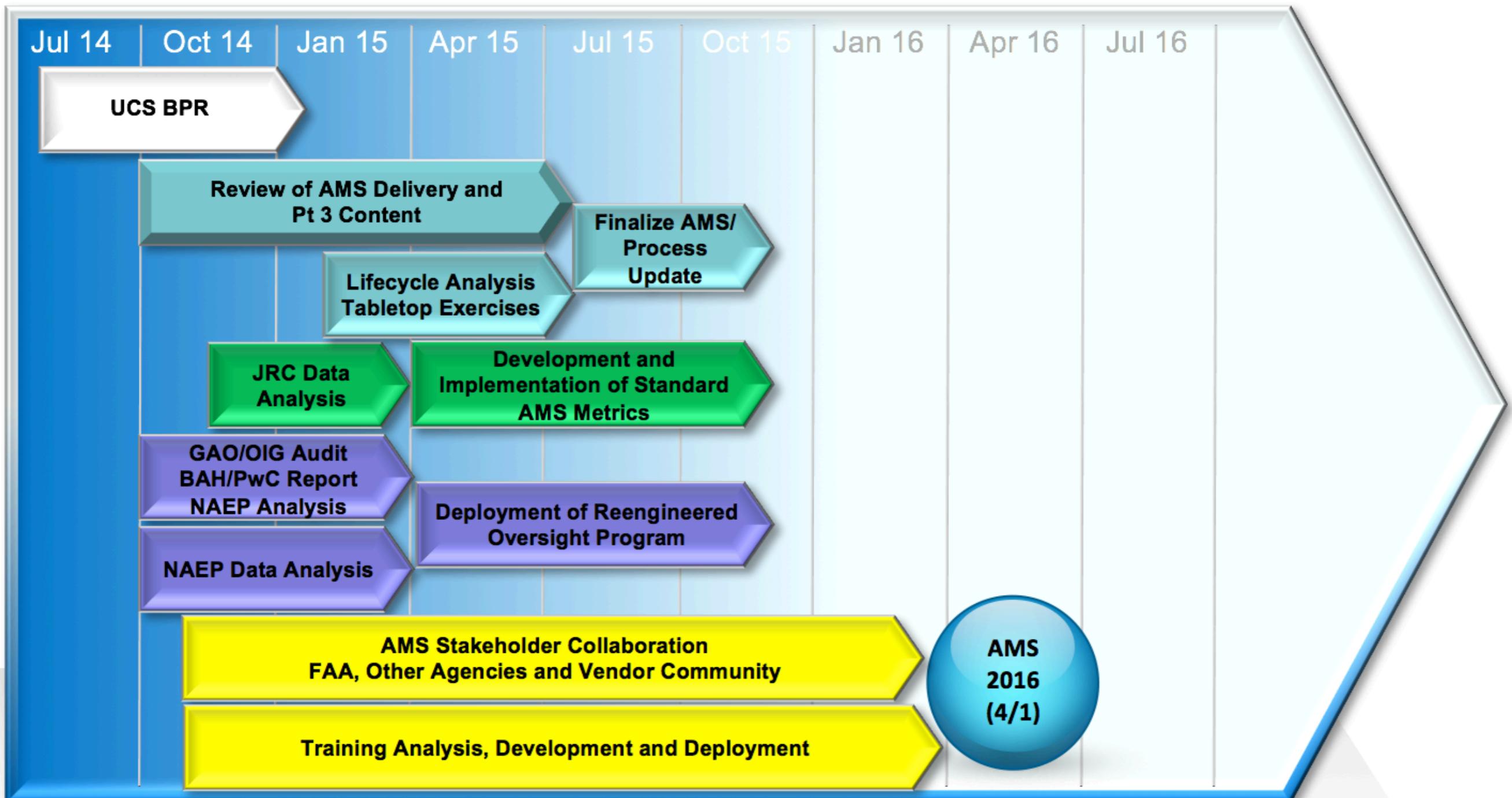
— *and* —

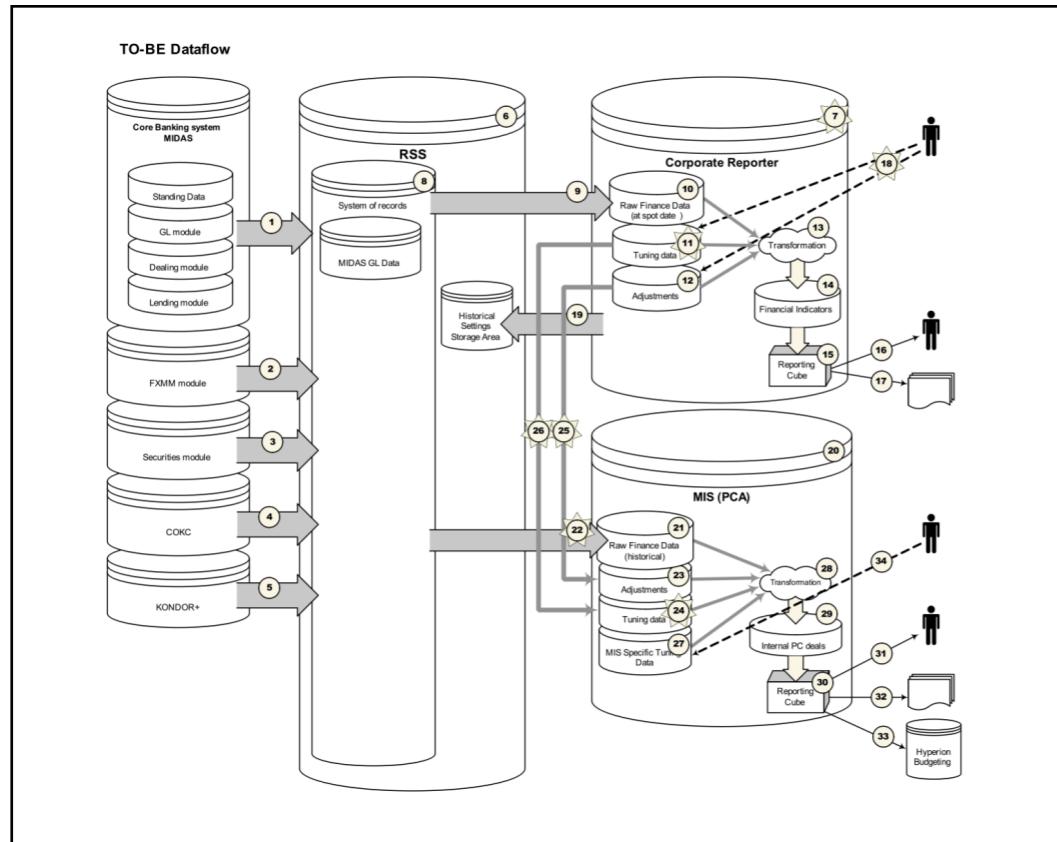
FOCUS

TO-BE Dataflow

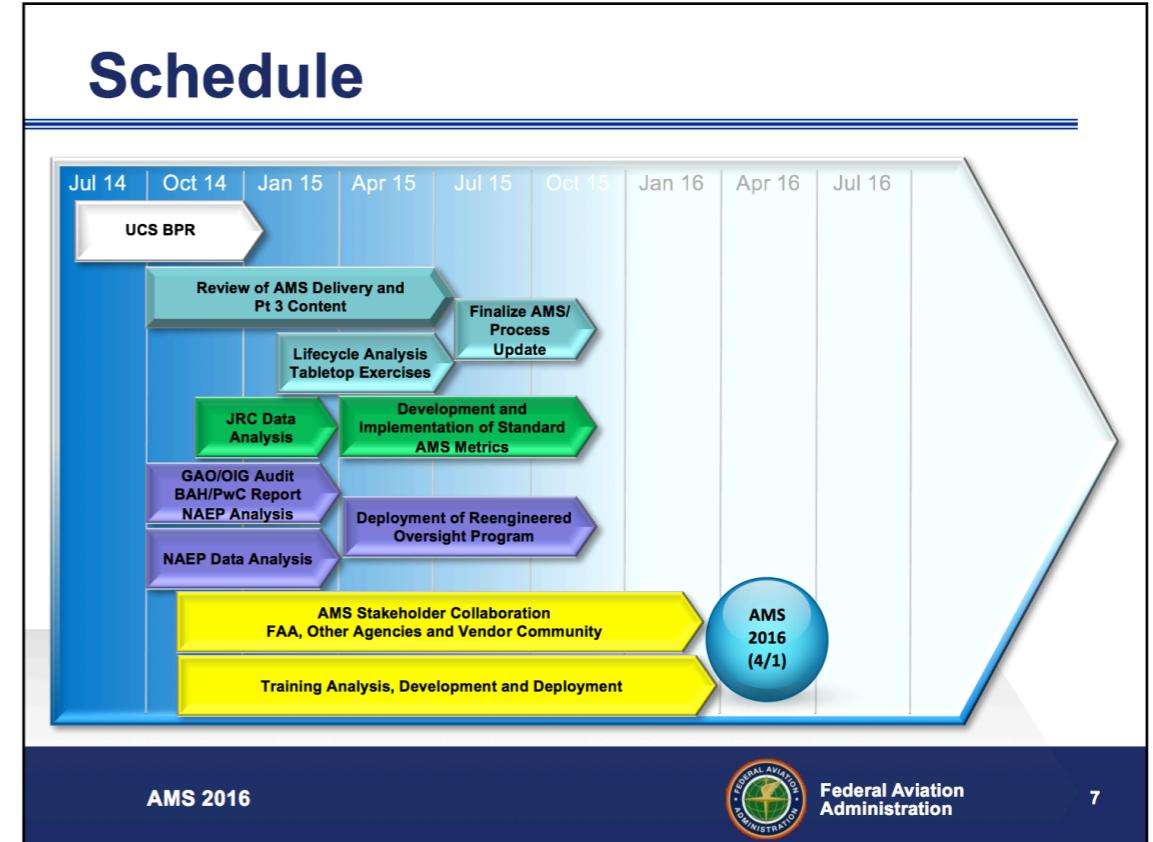


Schedule





No focus points



Too many focus points

Creating diagrams

Creating diagrams

1. Why do we need the diagram? Can we do without it?

Creating diagrams

1. Why do we need the diagram? Can we do without it?
2. What's the key message? What's the decision?

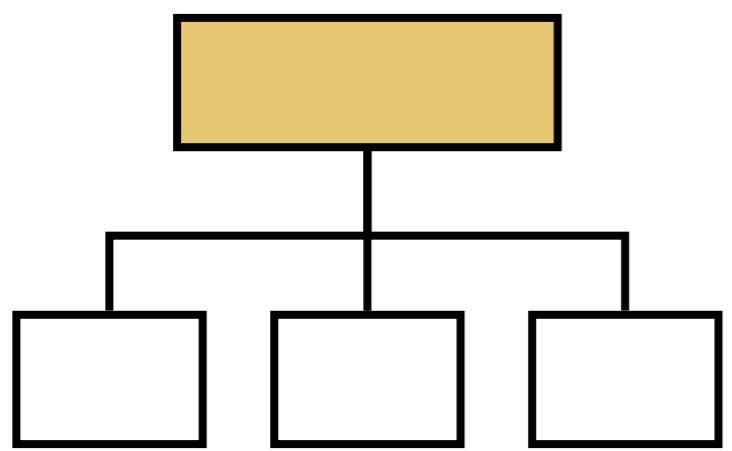
Creating diagrams

1. Why do we need the diagram? Can we do without it?
2. What's the key message? What's the decision?
3. Create 3-5 focal points for the eye to travel

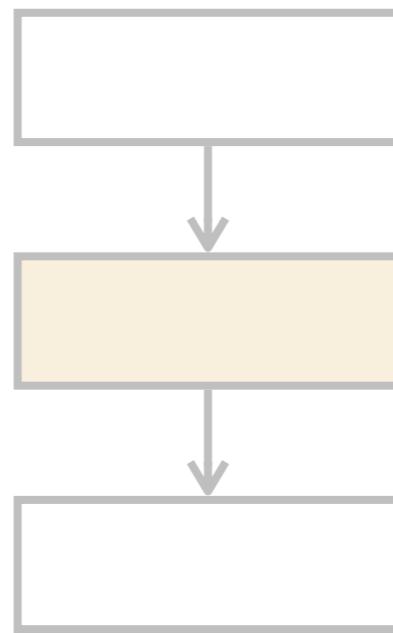
Creating diagrams

1. Why do we need the diagram? Can we do without it?
2. What's the key message? What's the decision?
3. Create 3-5 focal points for the eye to travel
4. Remove or move to the background everything else
 - *Do we need that much color?*
 - *Can we dim the connecting lines?*
 - *Do we need fills and borders?*

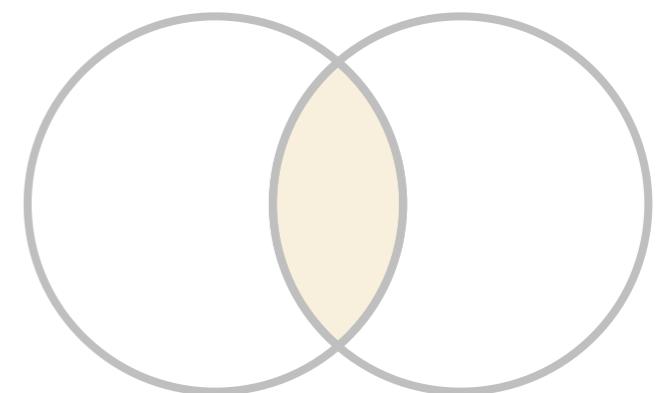
Hierarchy



Hierarchy



Process



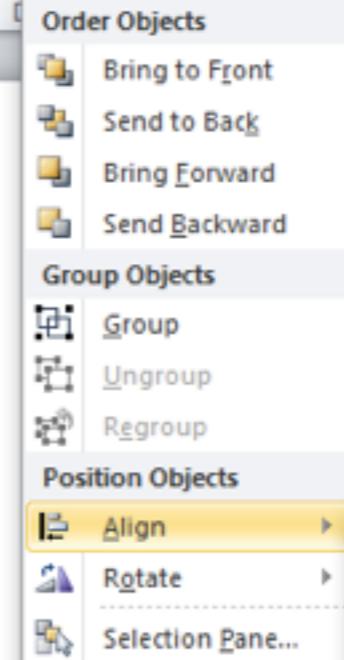
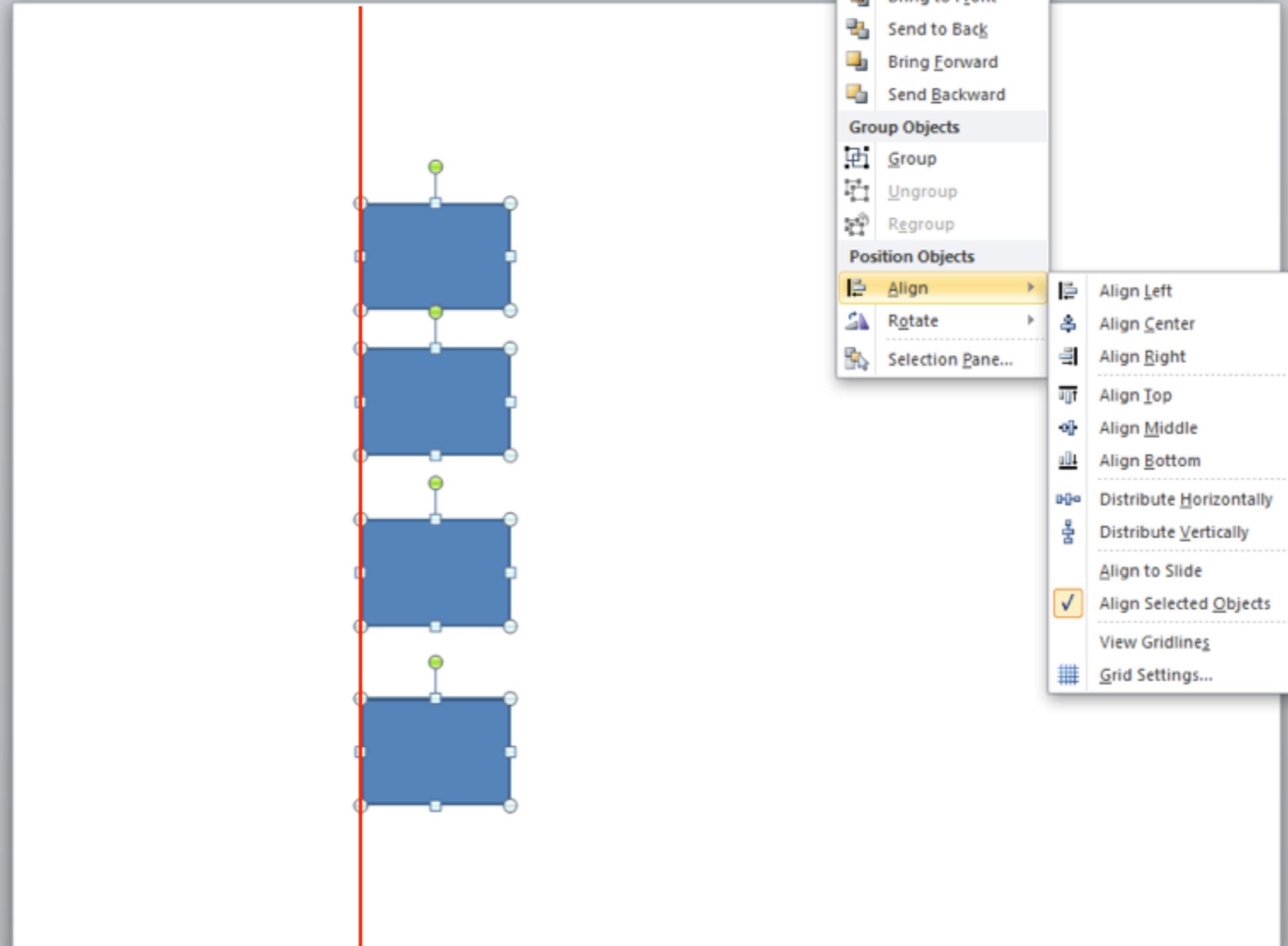
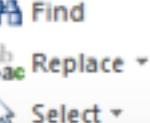
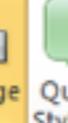
Relationships

Investment Support Agency



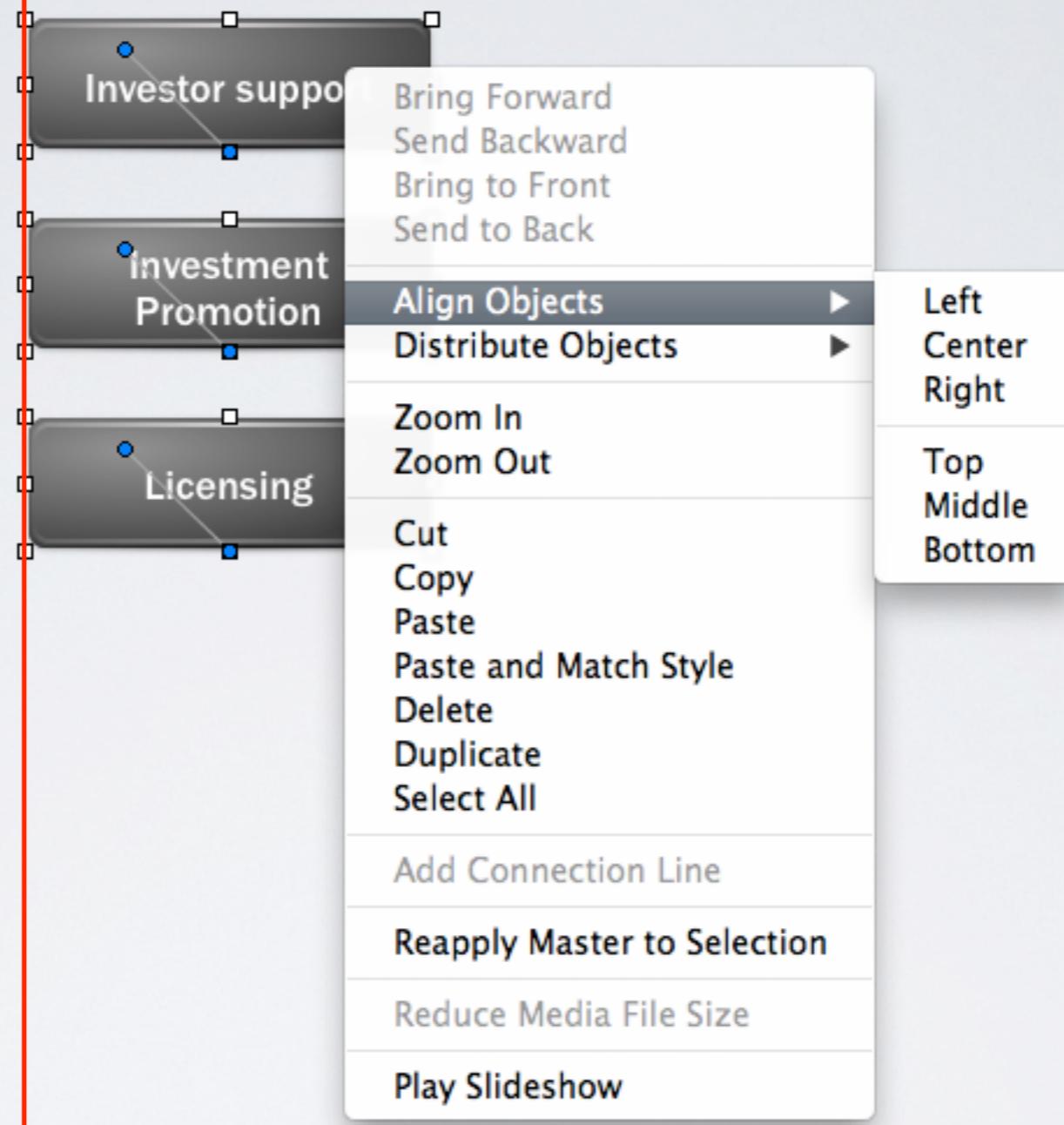
Transitions Animations Slide Show Review View

Format

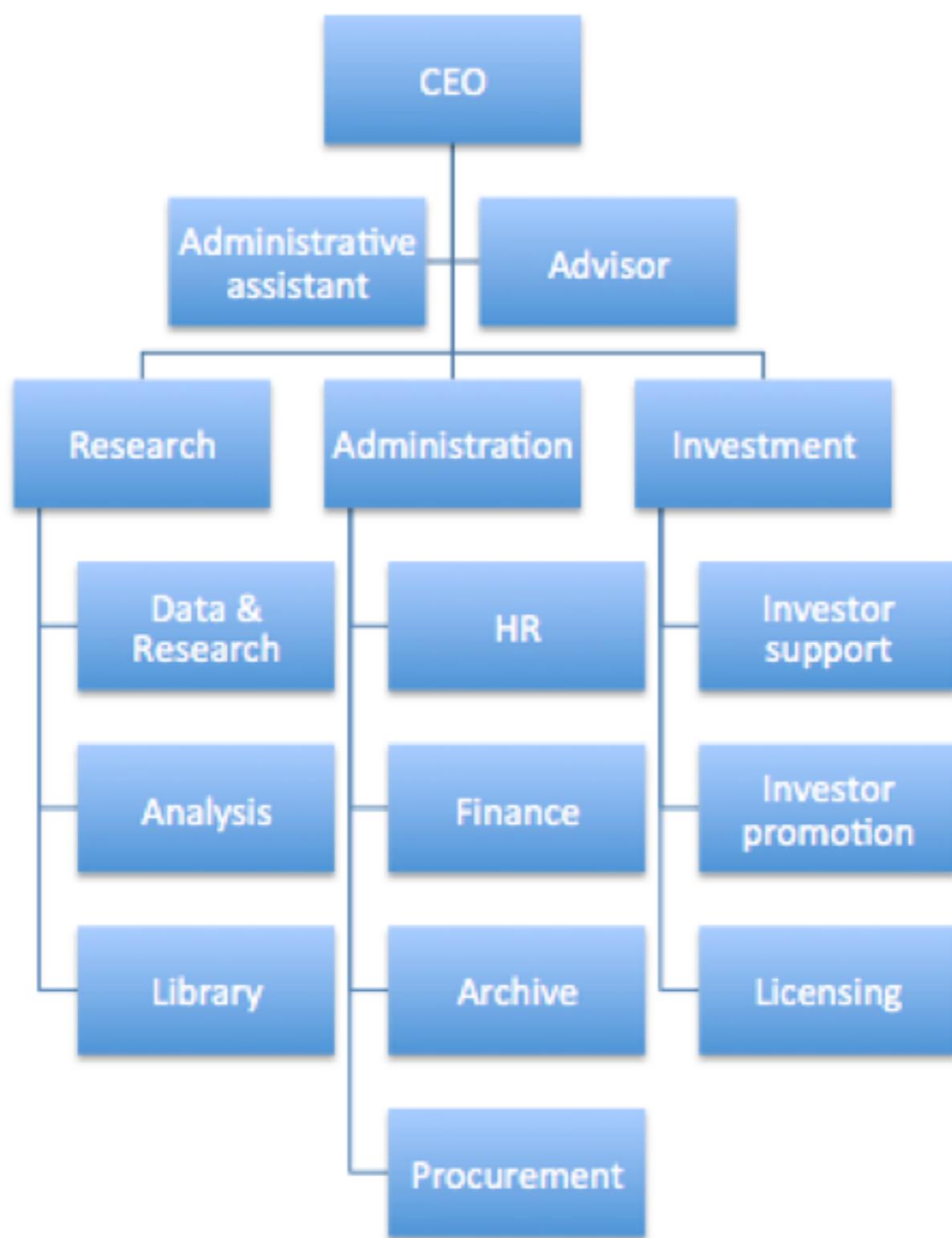


- Align
 - Align Left
 - Align Center
 - Align Right
 - Rotate
 - Selection Pane...
- Align Selected Objects
 - View Gridlines
 - Grid Settings...

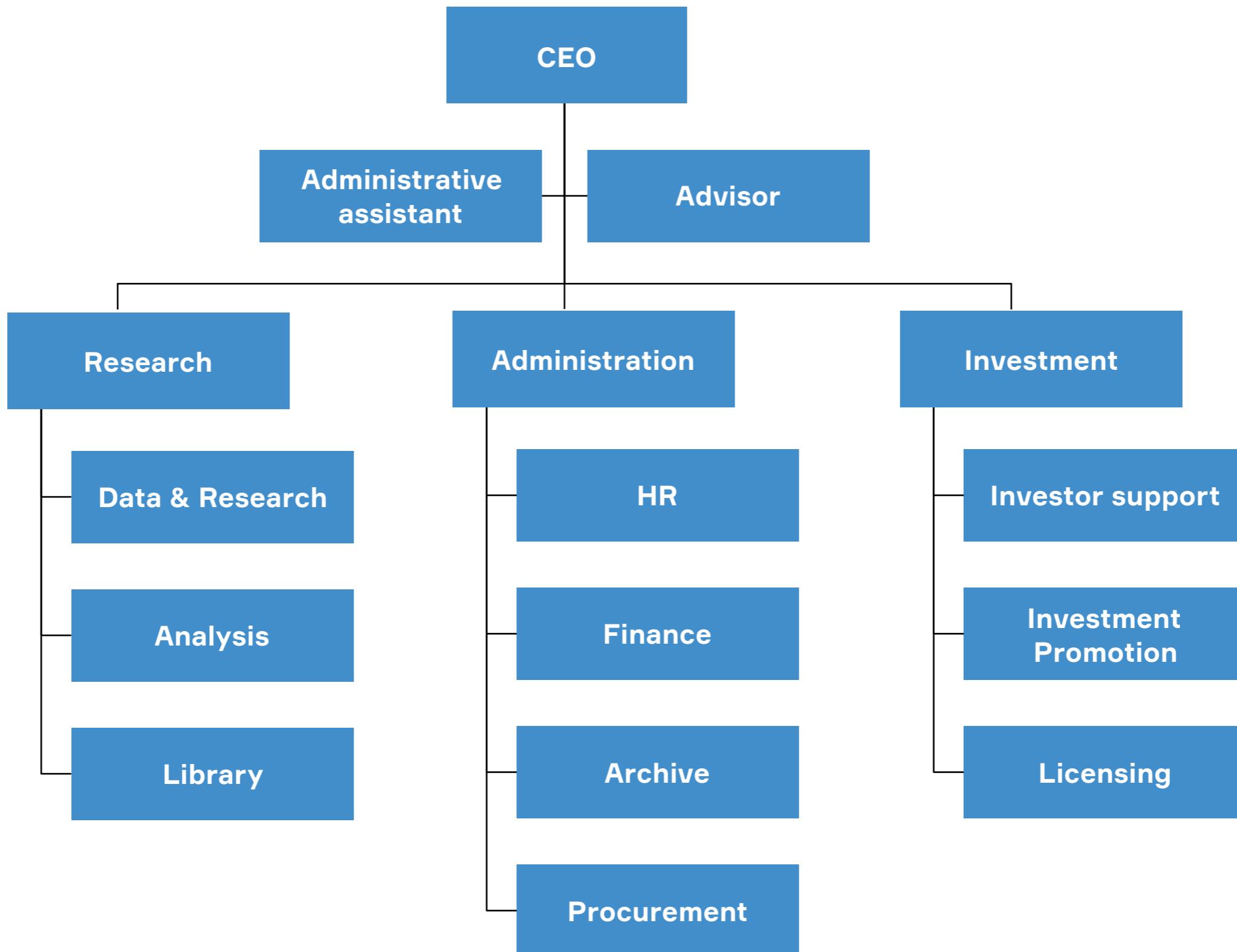
Click to add notes



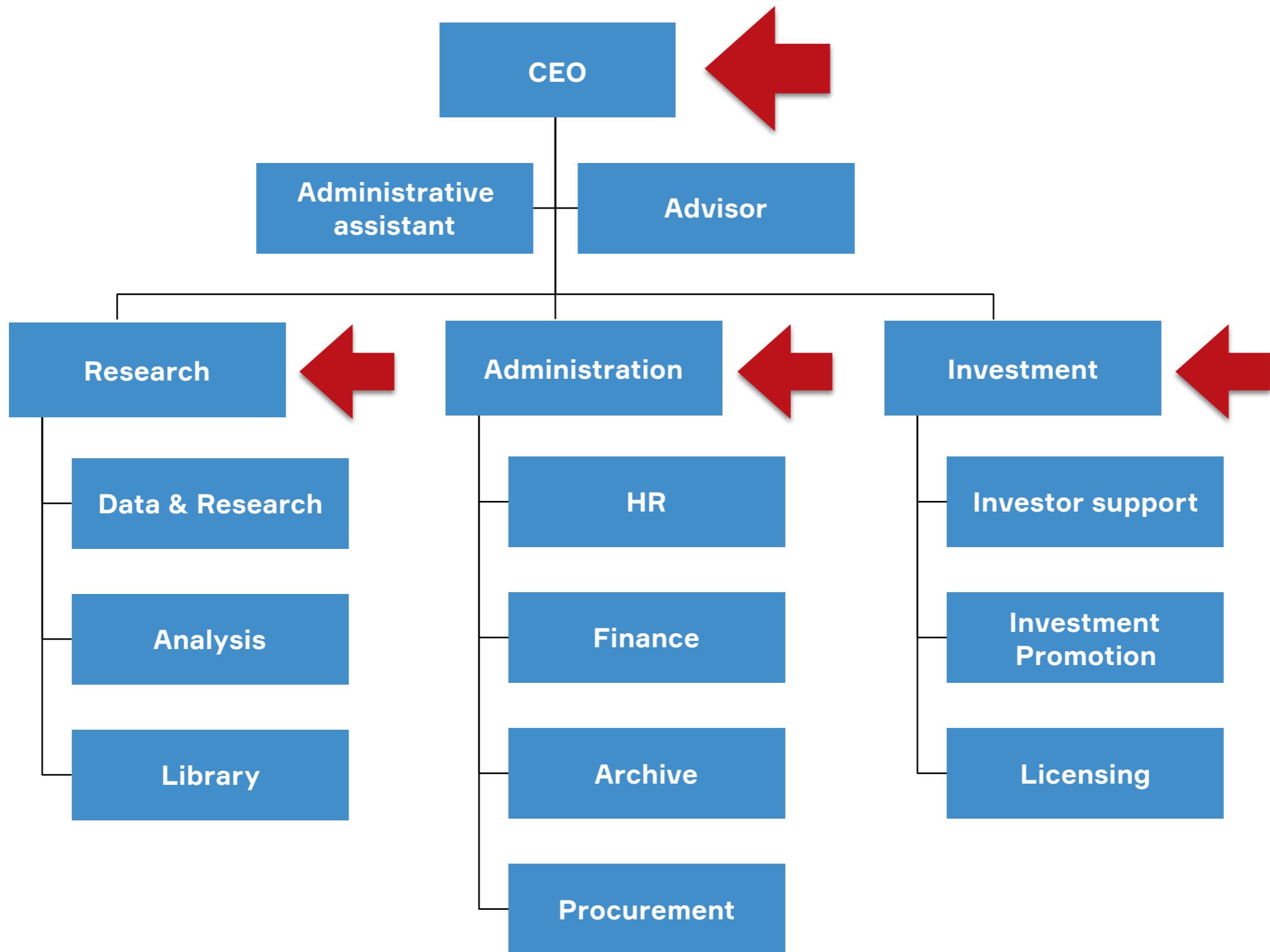
Investment Support Agency



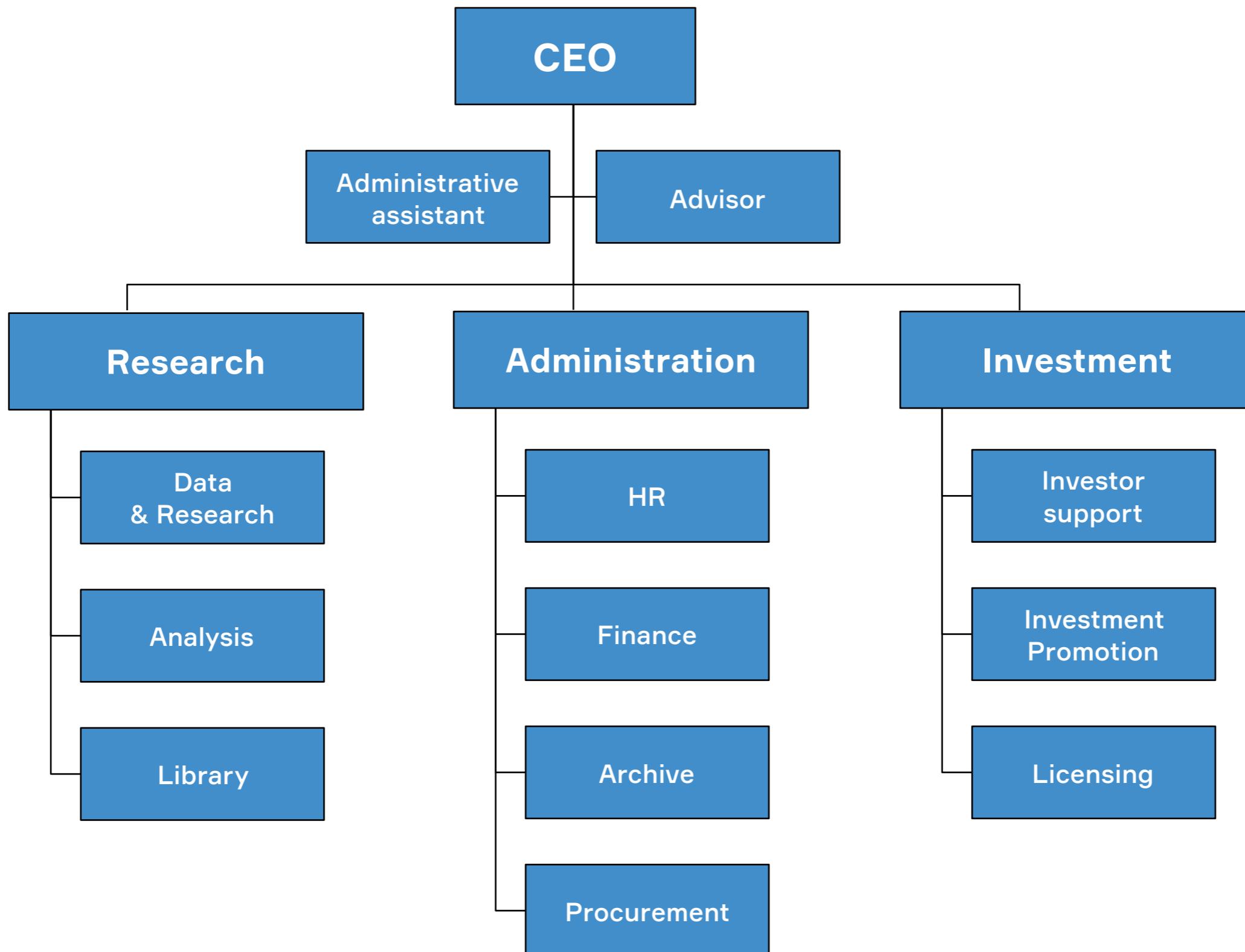
Investment Support Agency



Investment Support Agency



Investment Support Agency



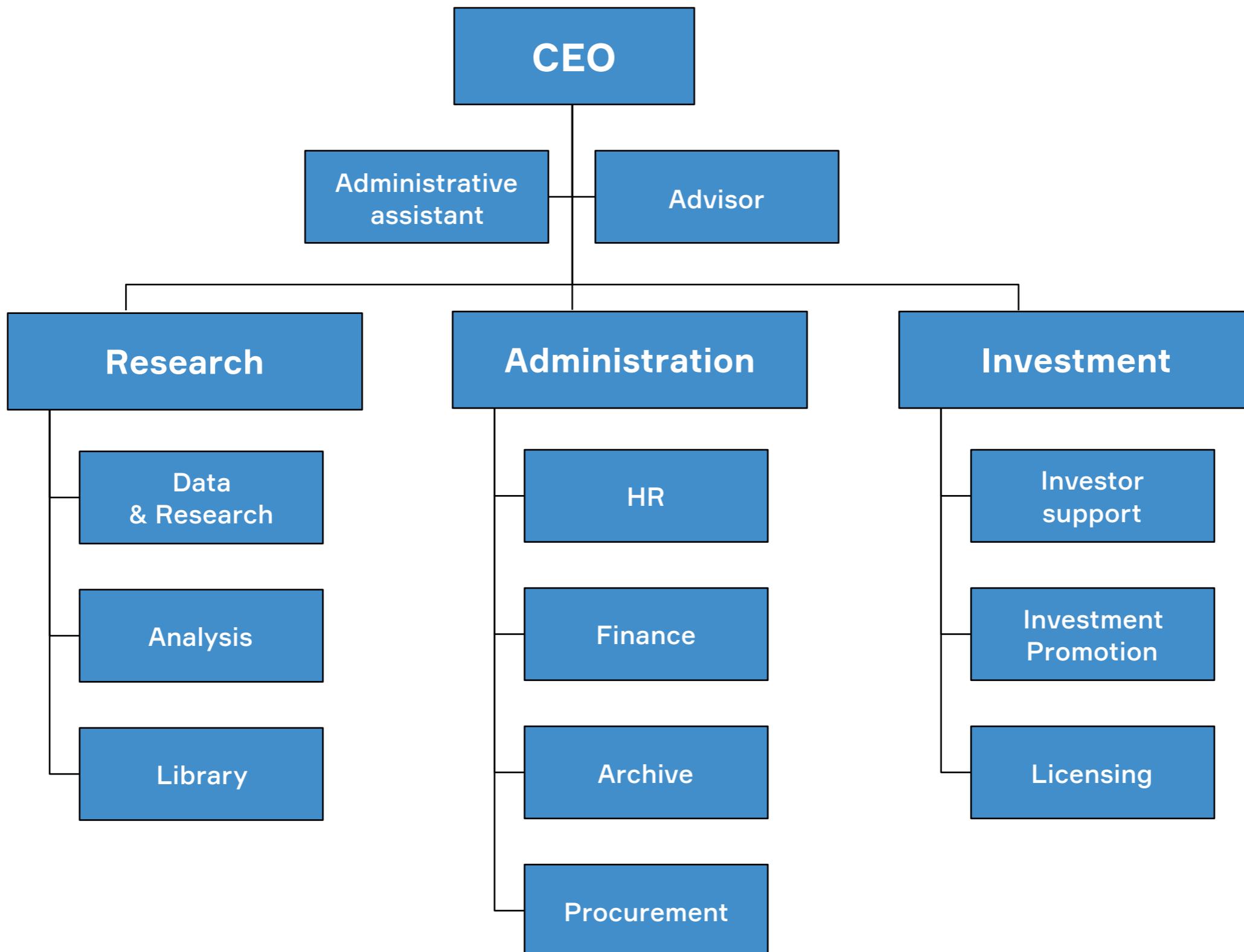
How many
COLORED BOXES

can you have on
ONE SLIDE?

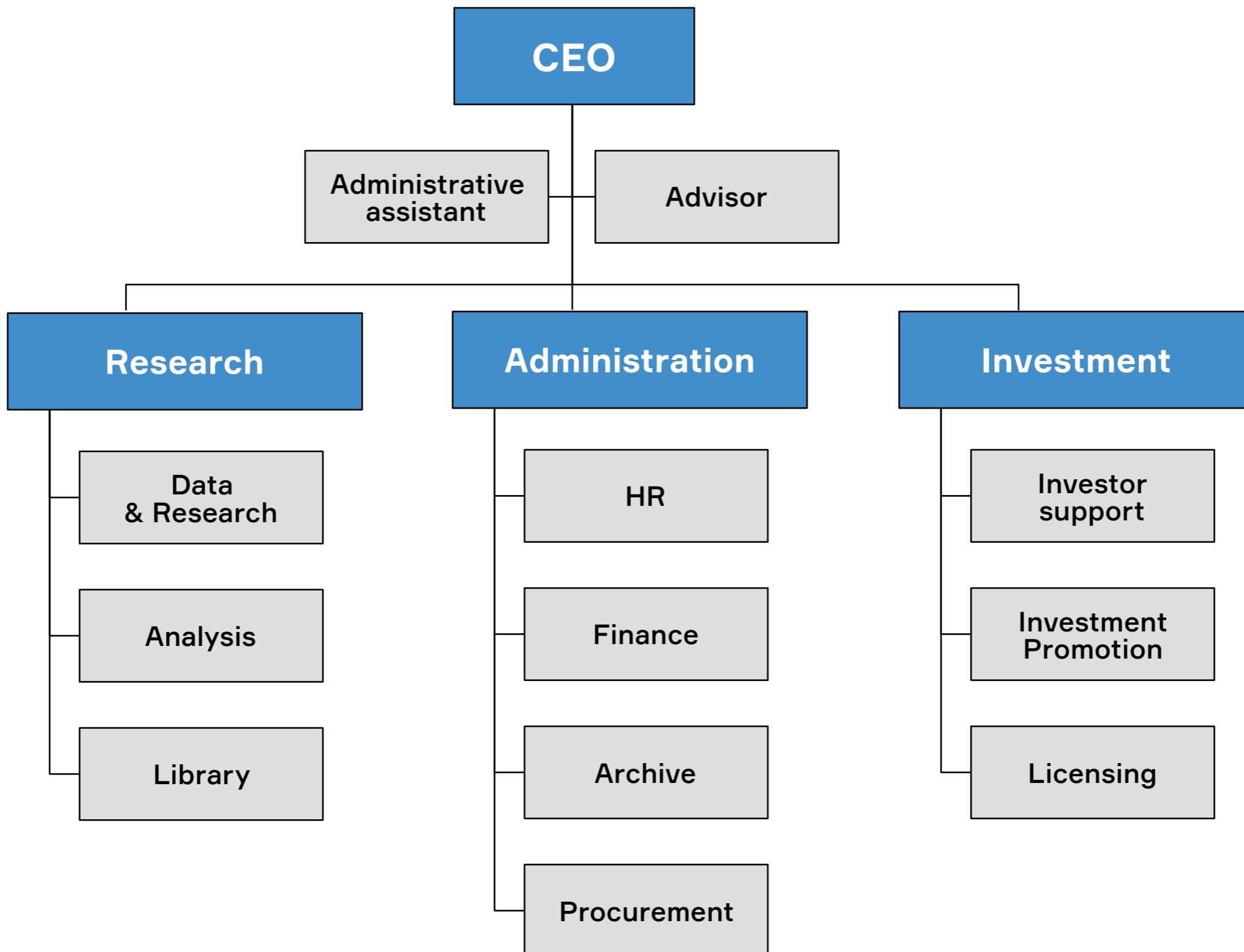
3-5

**Have more than that
and it will be a mess**

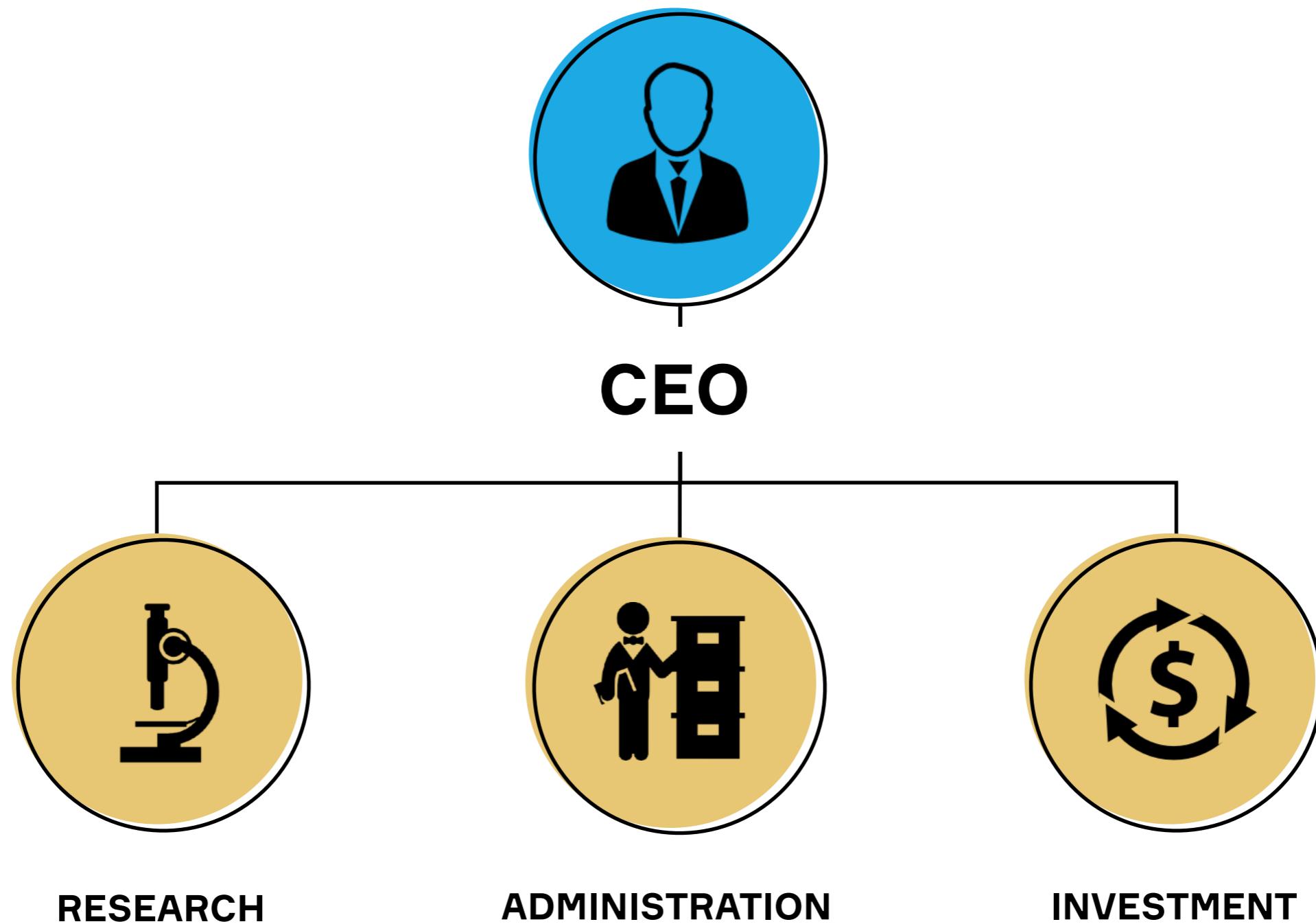
Investment Support Agency



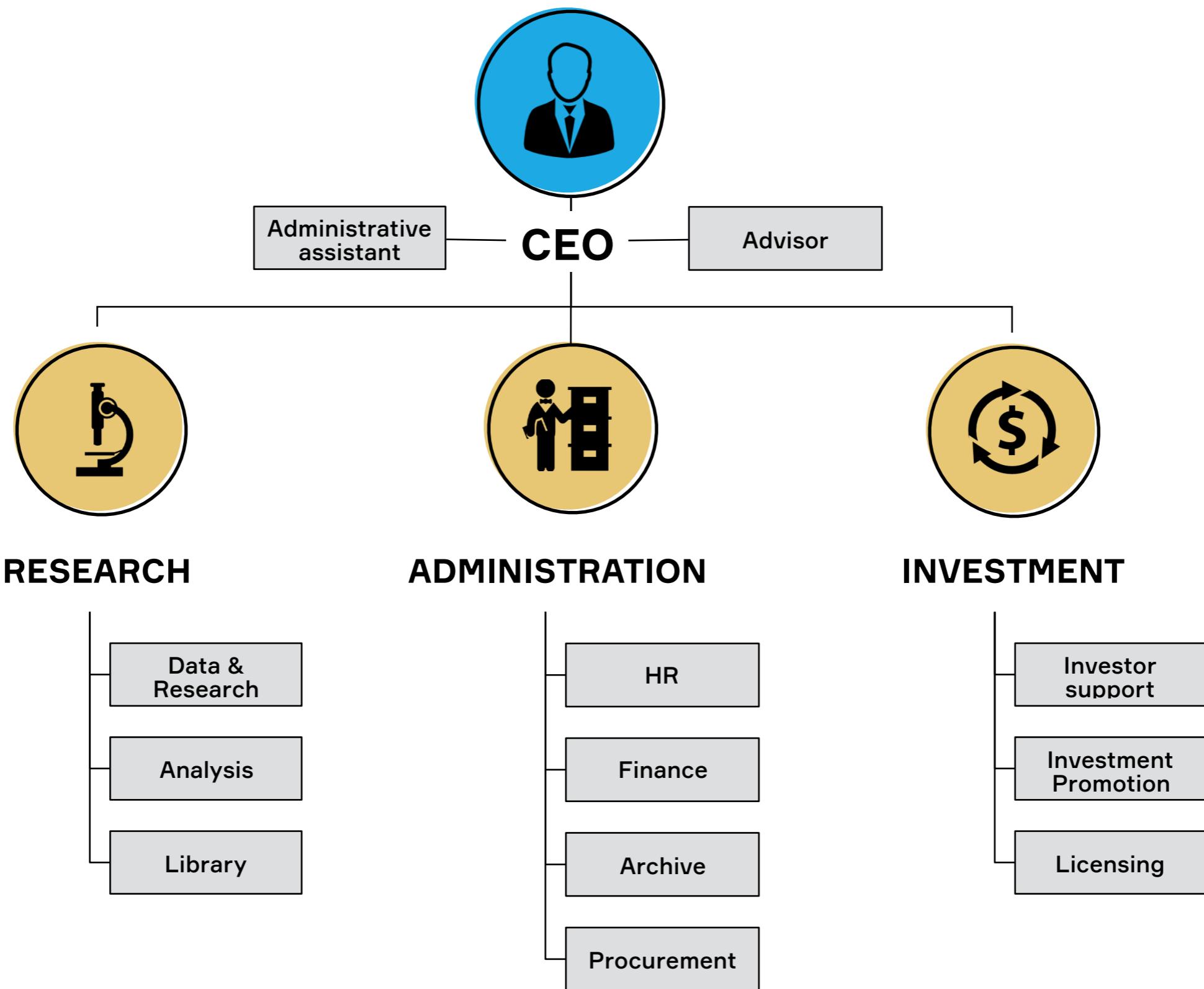
Investment Support Agency



INVESTMENT SUPPORT AGENCY

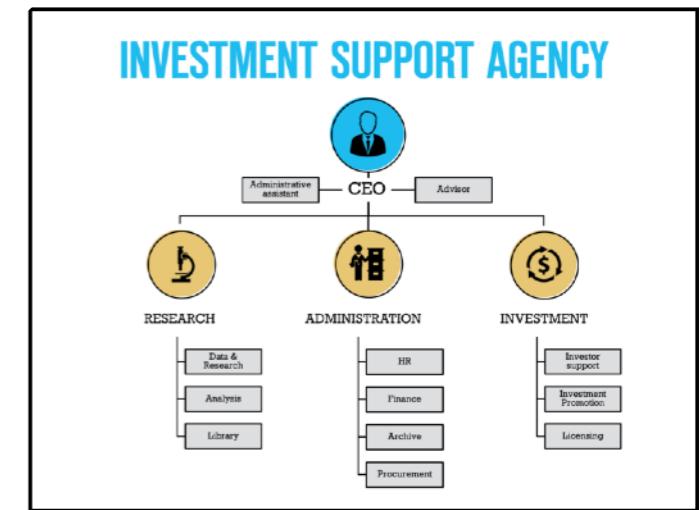
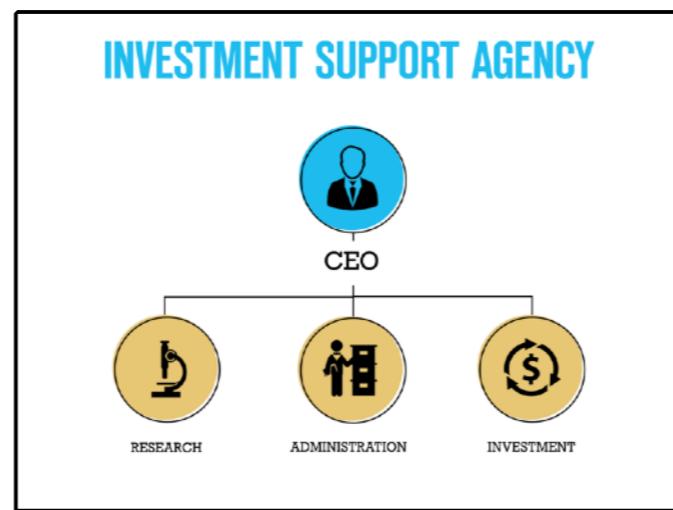


INVESTMENT SUPPORT AGENCY





INVESTMENT SUPPORT AGENCY



**MAYBE
NOT ENOUGH**

**MAYBE
TOO MUCH**

Hierarchy

Hierarchy

- Create focus points with color, size and icons

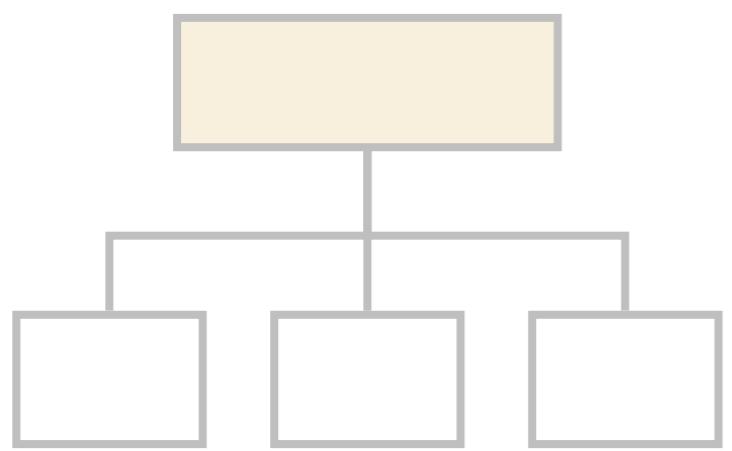
Hierarchy

- Create focus points with color, size and icons
- It's really easy with hierarchy

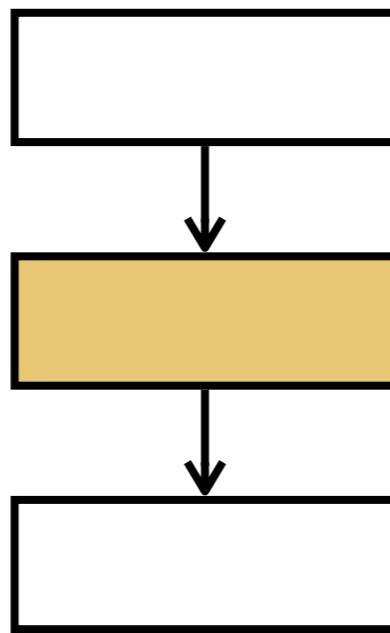
Hierarchy

- Create focus points with color, size and icons
- It's really easy with hierarchy
- Dim or remove everything else

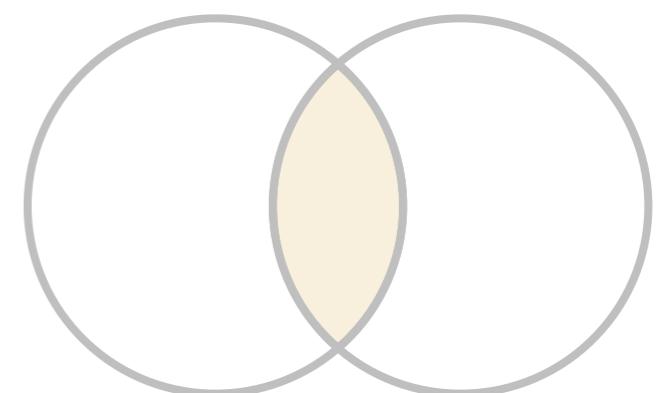
Process



Hierarchy



Process



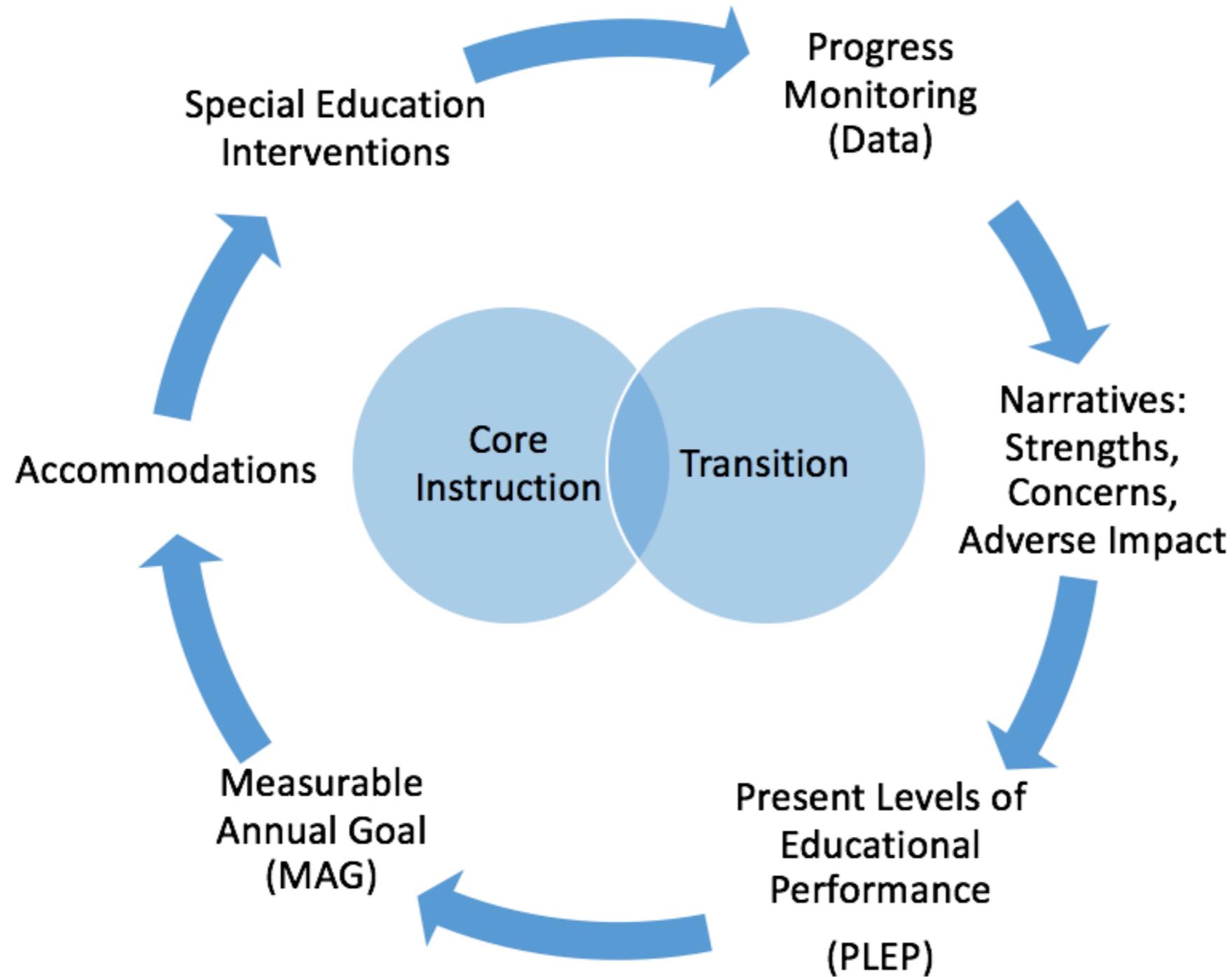
Relationships

BOXES

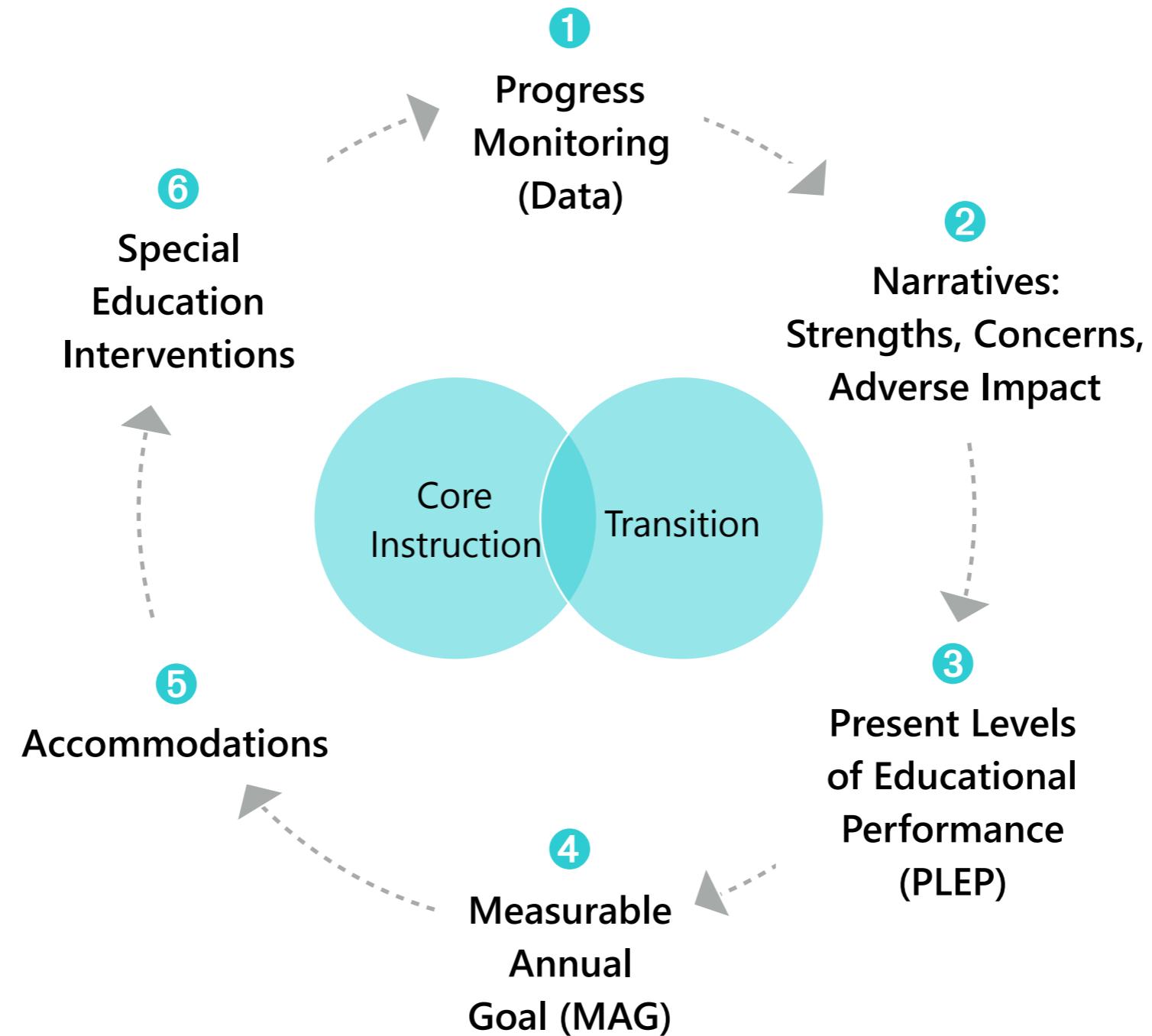
or

ARROWS?

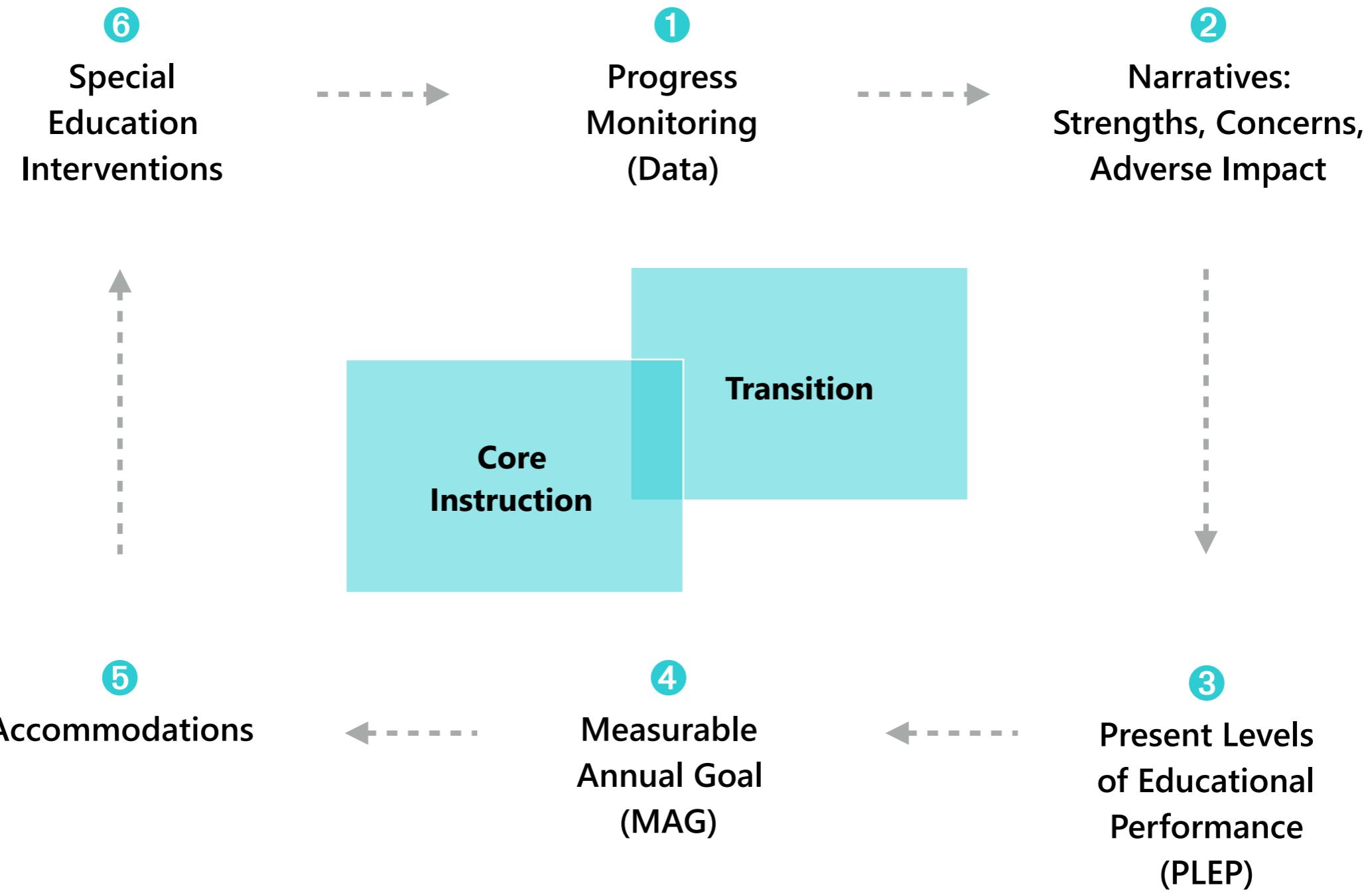
Special Education Framework



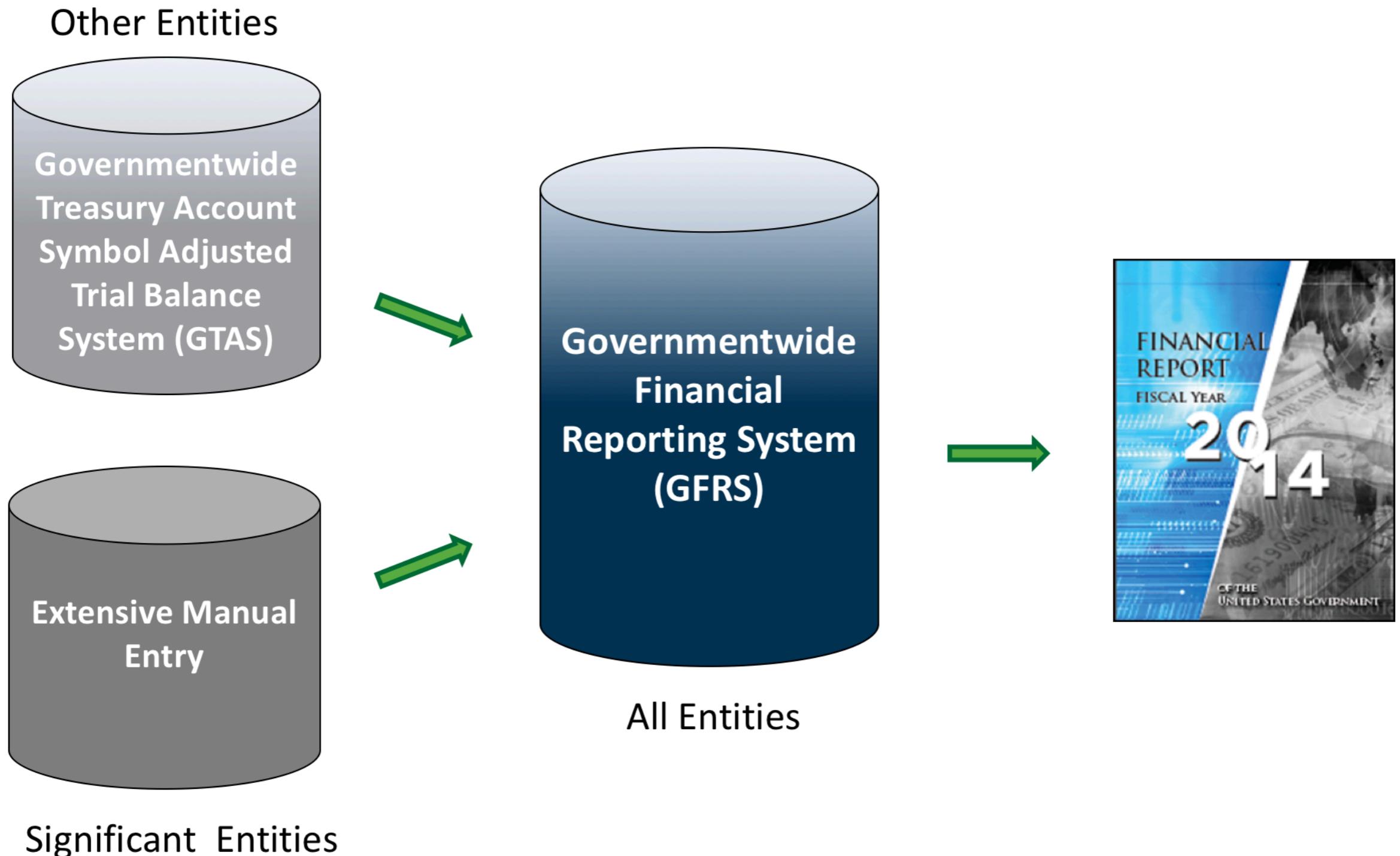
Special Education Framework



Special Education Framework



2015 (and PY) Reporting State



2015 (and PY) Reporting State

Other Entities

**Governmentwide
Treasury
Account Symbol
Adjusted Trial
Balance System
(GTAS)**

**Extensive Manual
Entry**

**Governmentwide
Financial
Reporting
System (GFRS)**

All Entities

Significant Entities



2015 (and PY) Reporting State

Governmentwide
Treasury Account
Symbol Adjusted
Trial Balance
System (GTAS)

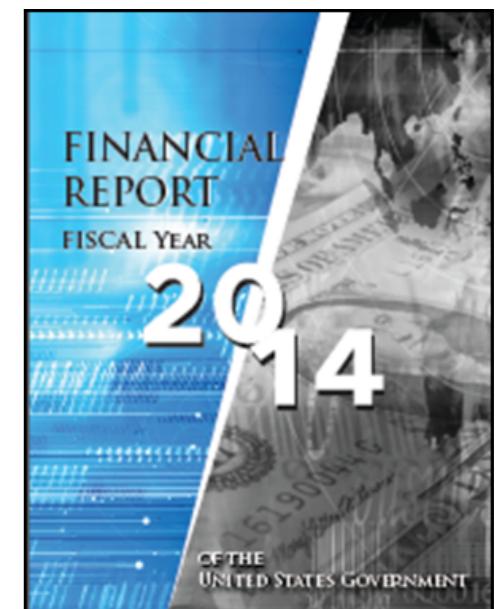
Other Entities

Extensive
Manual Entry

Significant Entities

Governmentwide
Financial
Reporting
System (GFRS)

All Entities



2015 (and PY) Reporting State



Governmentwide
Treasury Account
Symbol Adjusted Trial
Balance System (GTAS)

Other Entities



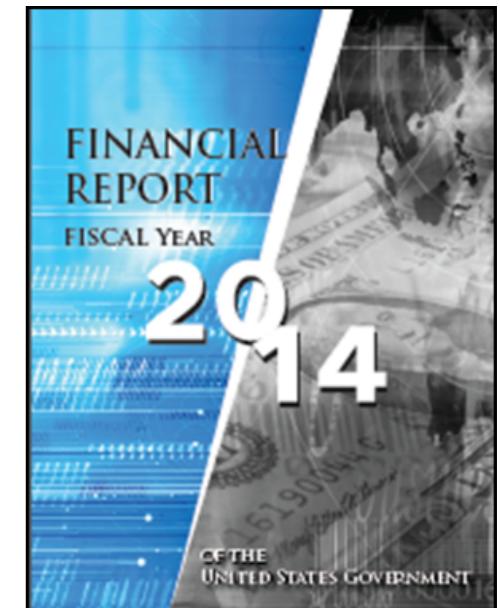
Extensive
Manual Entry

Significant Entities



Governmentwide
Financial Reporting
System (GFRS)

All Entities



2015 (and PY) Reporting State



Extensive
Manual Entry

Significant Entities



Governmentwide Treasury
Account Symbol Adjusted
Trial Balance System (GTAS)

Other Entities

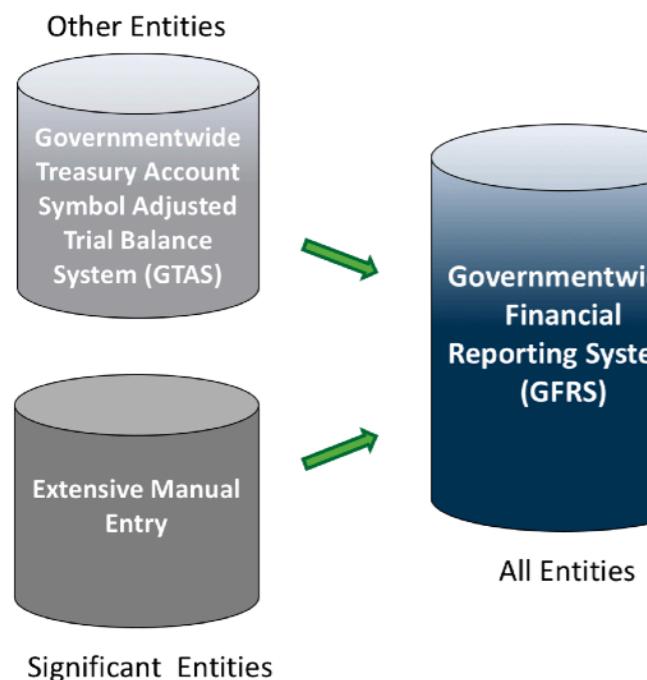


Governmentwide
Financial Reporting
System (GFRS)

All Entities



2015 (and PY) Reporting State

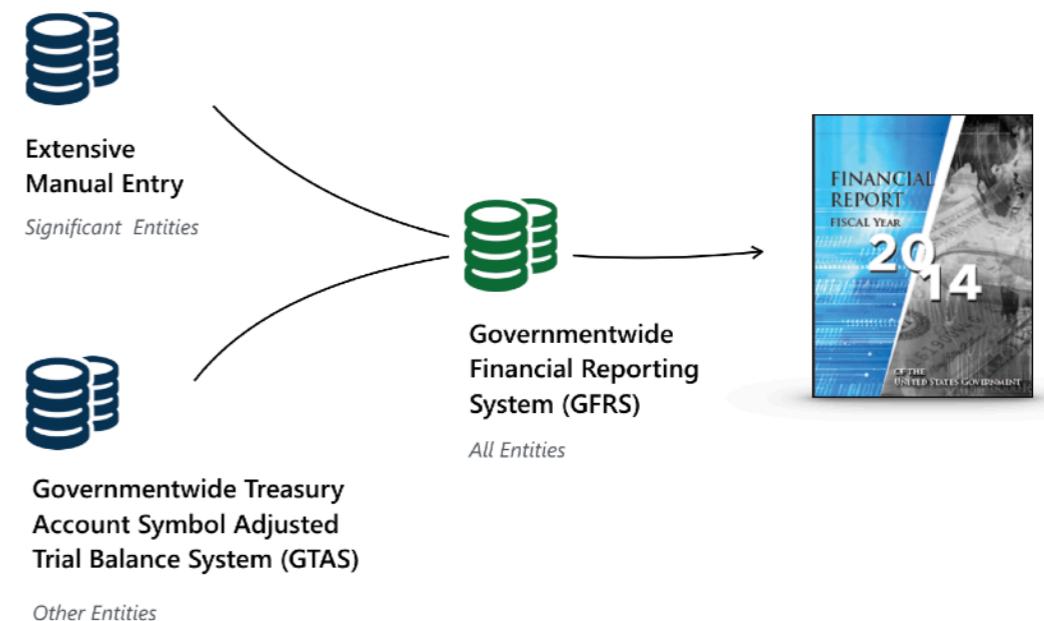


3

LEAD · TRANSFORM · DELIVER

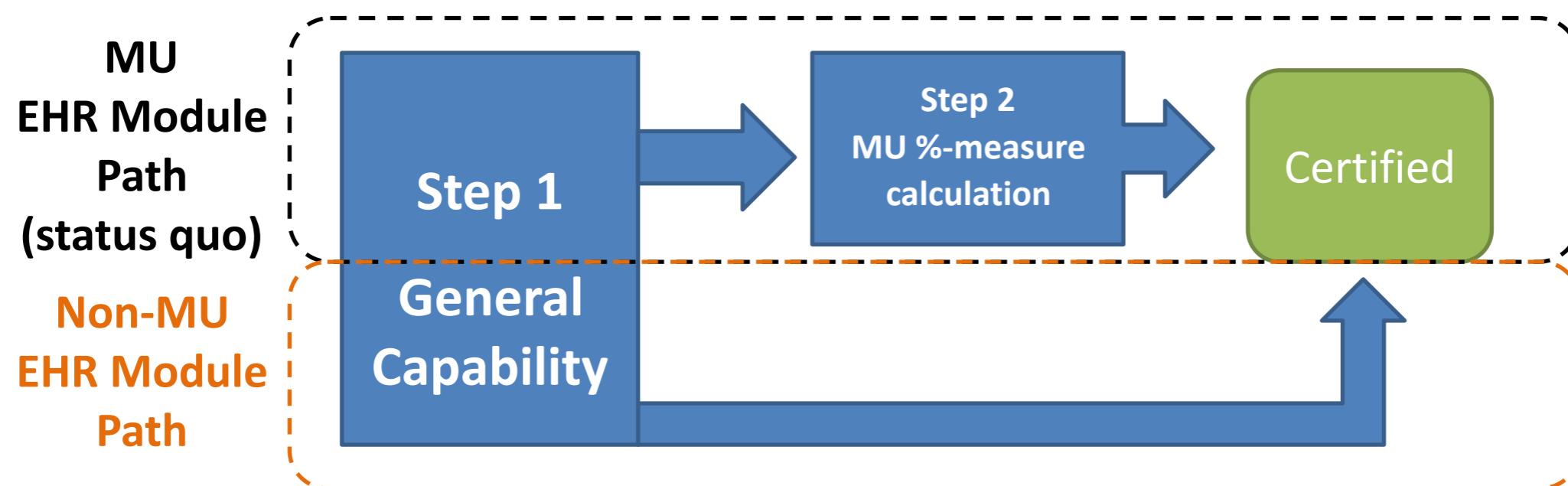


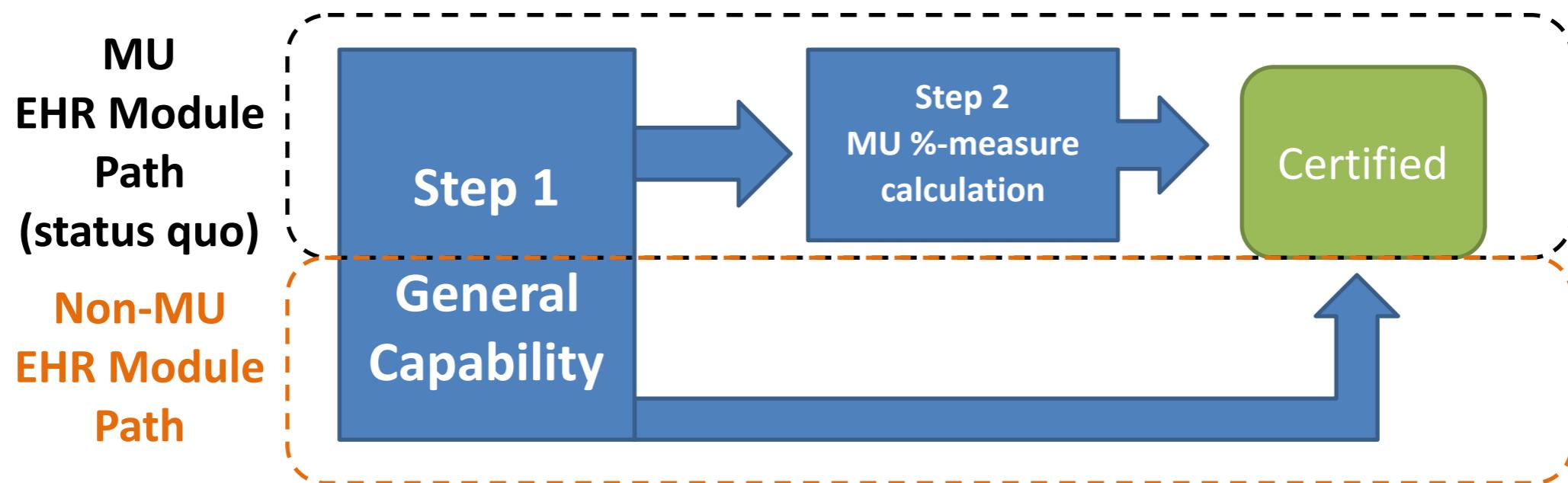
2015 (and PY) Reporting State

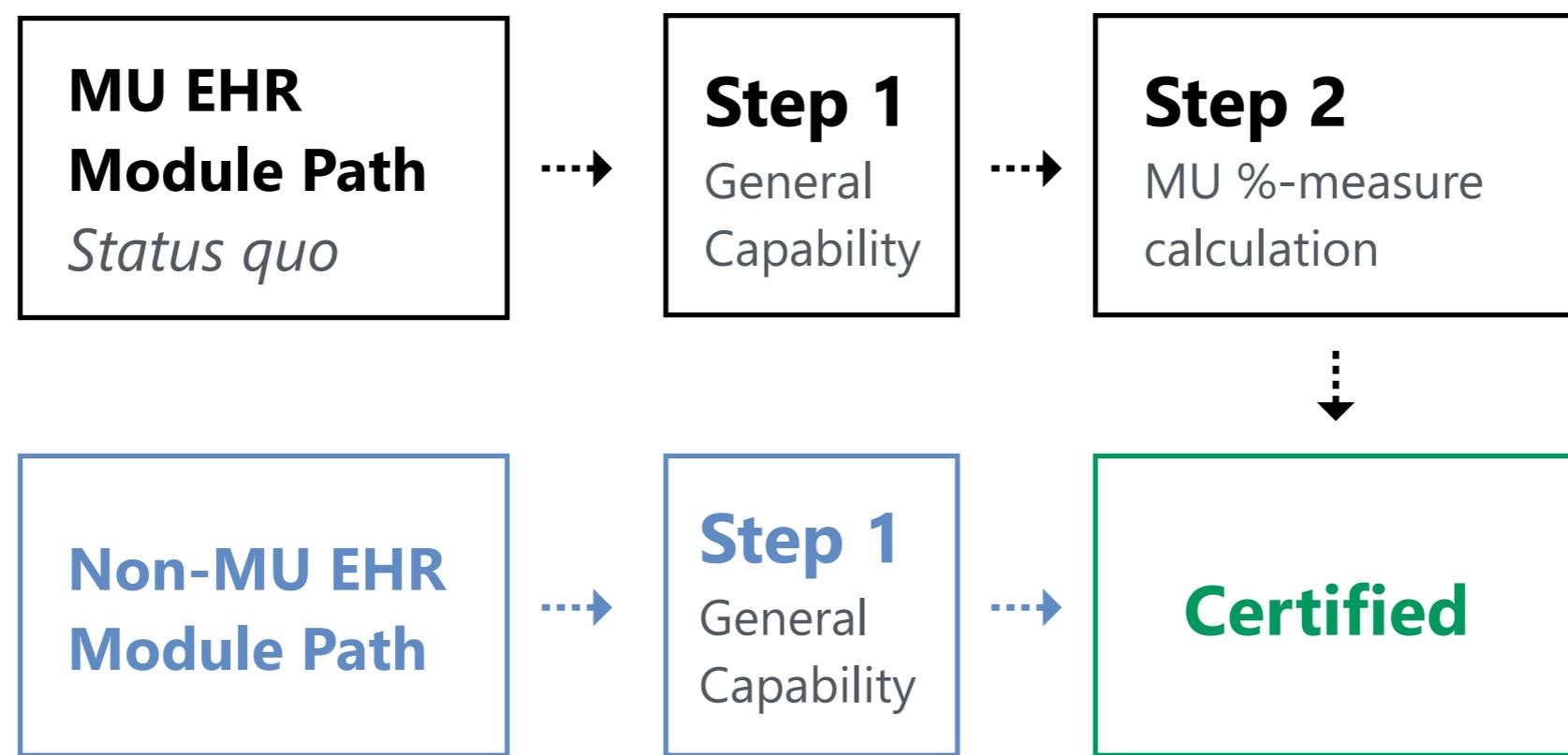


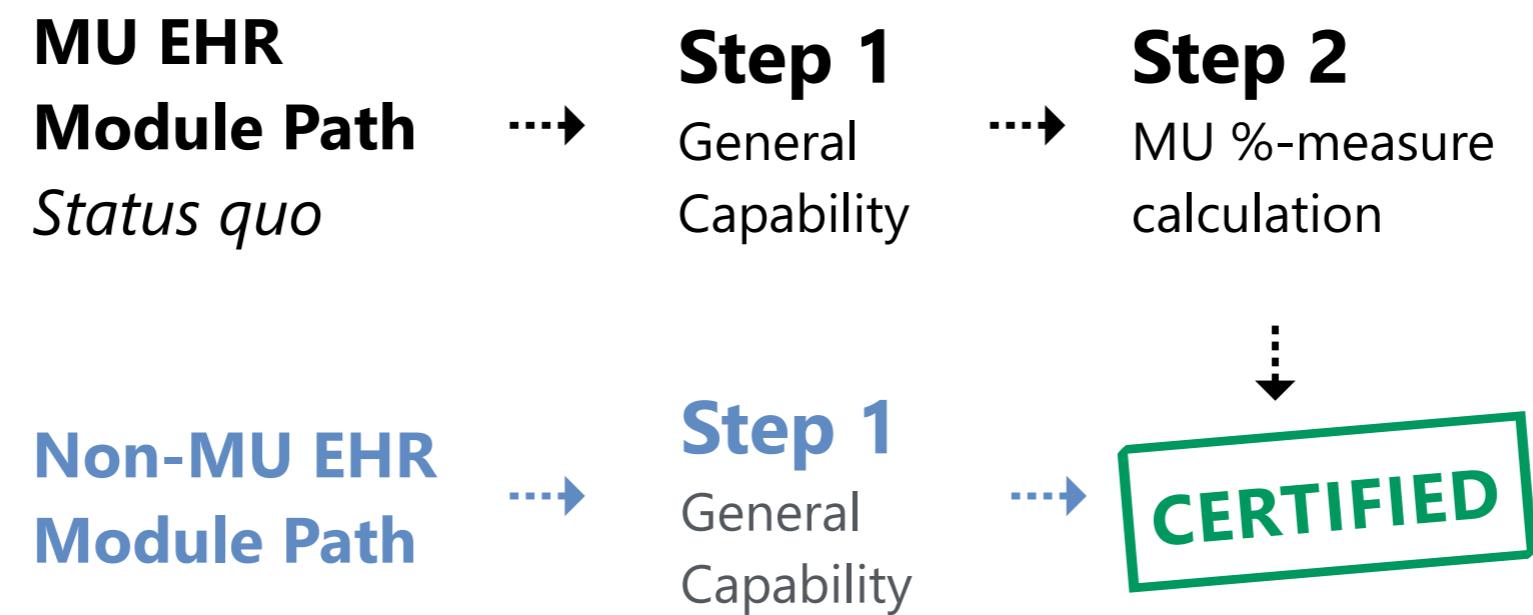
- Non-MU EHR Technology Certification

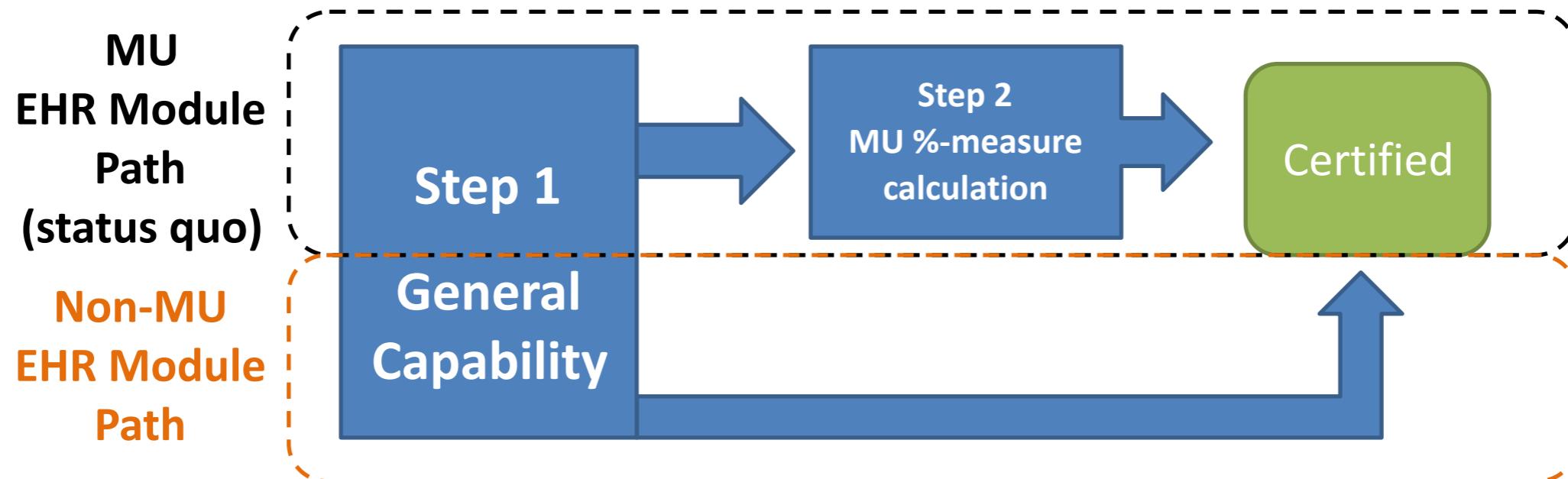
- Propose to remove existing regulatory burden that would require EHR technology designed for non-MU purposes to include MU measure calculation capabilities in order to get certified.
- Propose to permit “MU EHR Modules” and “non-MU EHR Modules” to be certified. The latter would not need to include the MU-specific measure calculation capabilities to get certified.











**MU EHR
Module Path** → **Step 1**
Status quo General Capability → **Step 2**
 MU %-measure calculation

**Non-MU EHR
Module Path** → **Step 1**
 General Capability → **CERTIFIED**



Последствия существующего процесса технологического присоединения

Заключение договоров ТП с прямыми заявителями

Резервирование мощности за прямыми заявителями и сетевыми компаниями

Отсутствие связей с существующей сетью РСК

Создание новых и увеличение капитализации существующих сетевых компаний

Быстрый выбор свободной мощности ПС 220-750 кВ

Медленный выбор нагрузки по договорам ТП по причине отсутствия у прямых заявителей (сетевых компаний) подтвержденного заявителями плана загрузки

Невозможность присоединения заявителей от сетей РСК

Низкая надежность электроснабжения, отключение всех прямых потребителей при полном погашении ПС 220-750 кВ

Необходимость постоянного инвестирования в новое строительство 220-750 кВ

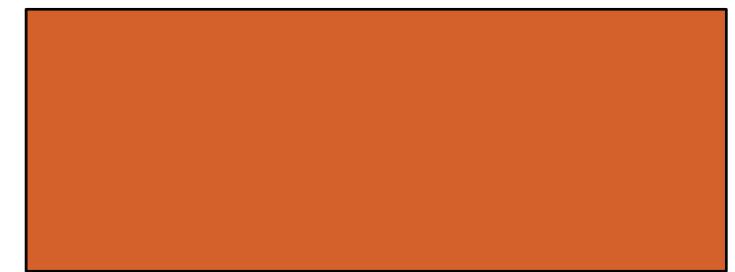
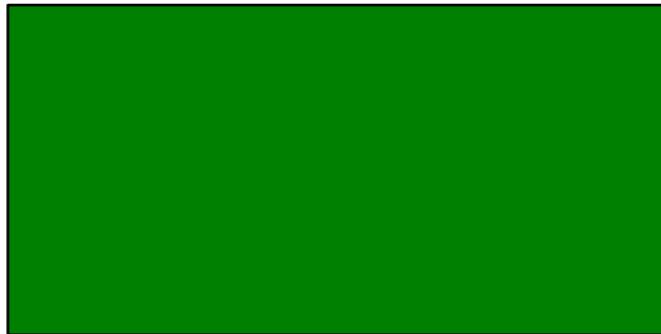
Низкий КПЭ объектов инвестирования 220-750 кВ, невыполнение критериев РАВ регулирования

Жалобы, снижение инвестиционного климата

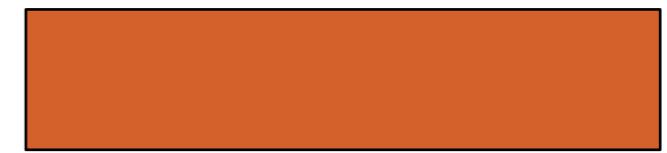
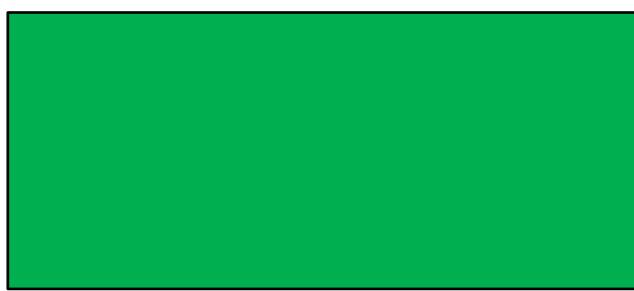
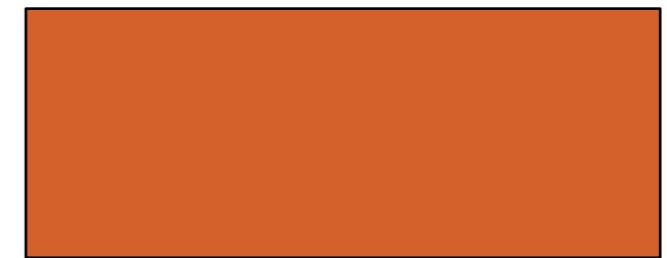
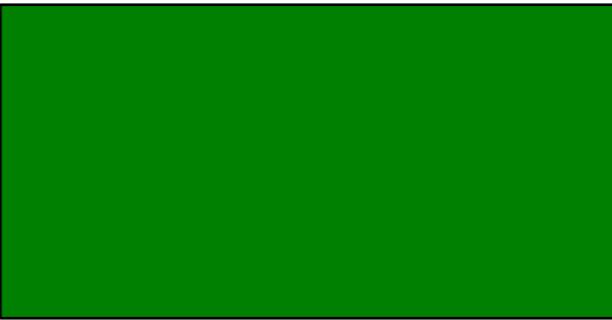
Снижение ежегодной выручки РСК от транспорта э/э по причине её формирования по остаточному принципу.

Упущеная выгода по увеличению капитализации ОАО «Российские сети»

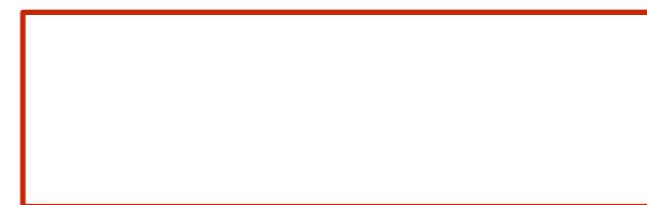
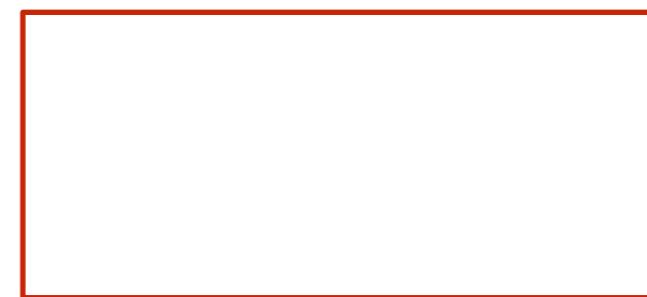
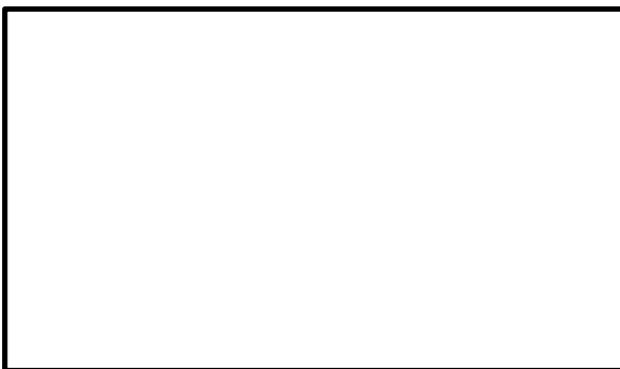
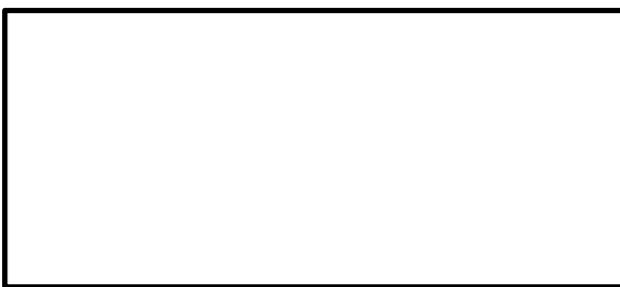
Последствия существующего процесса технологического присоединения



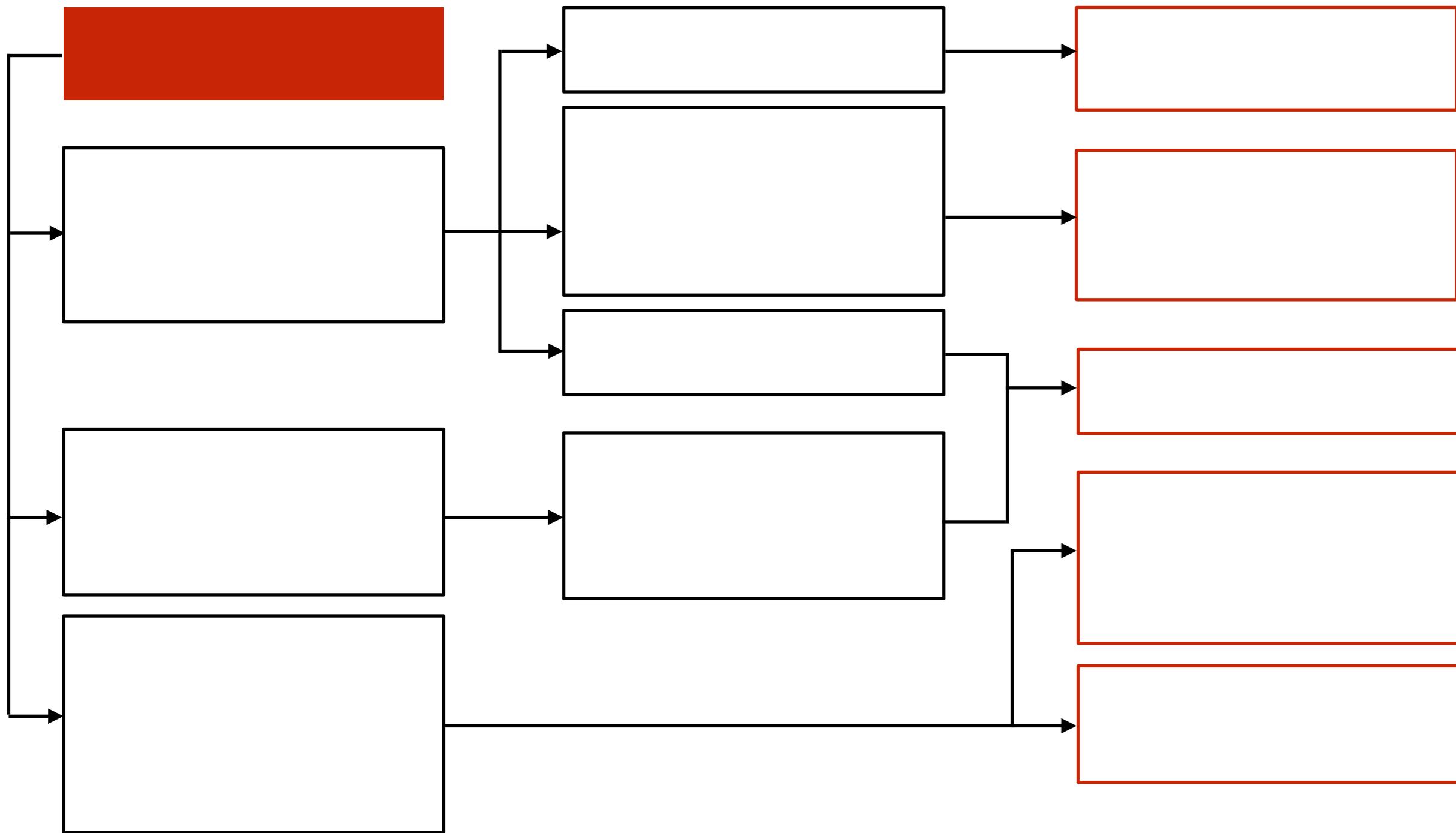
Последствия существующего процесса технологического присоединения



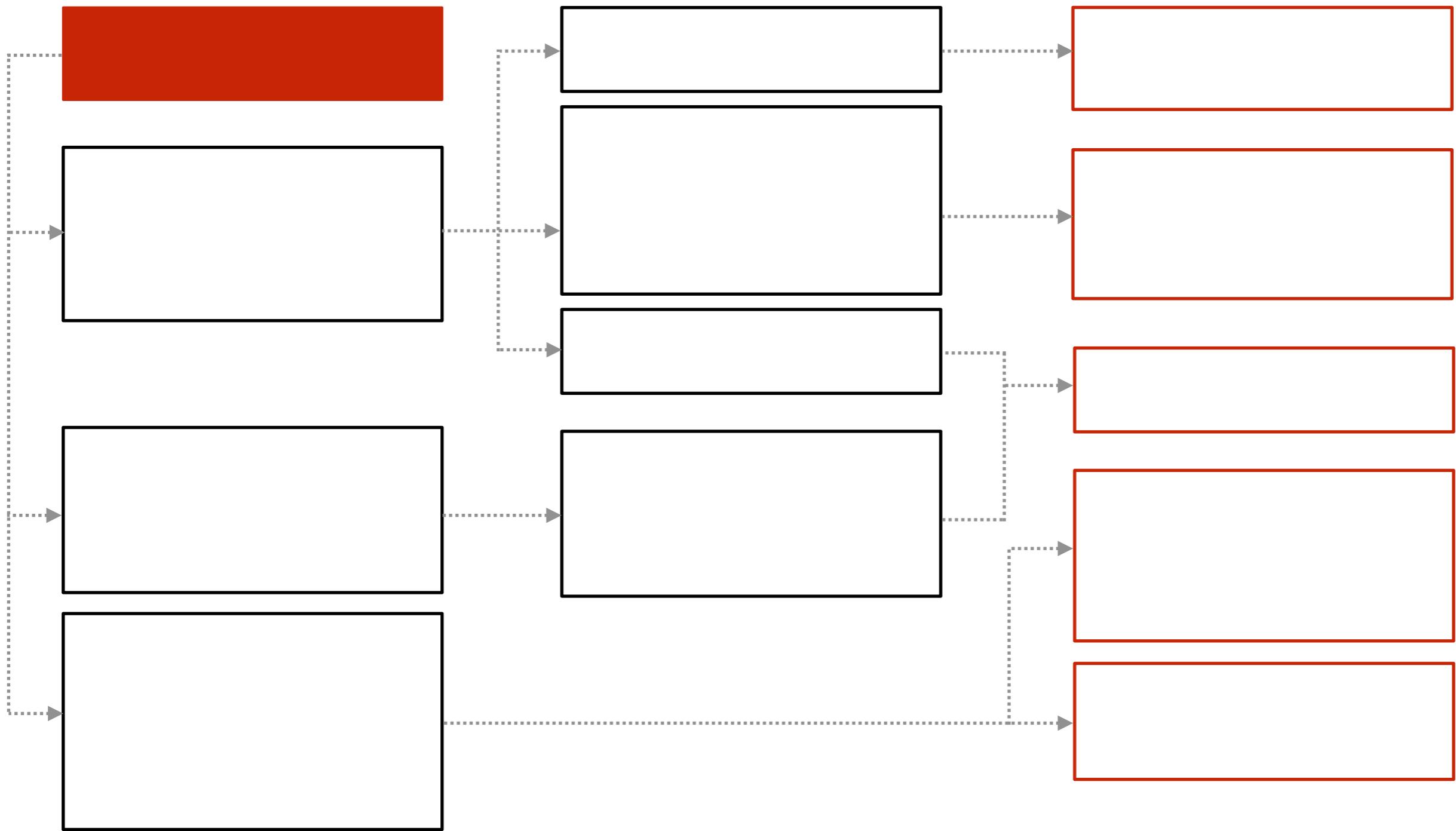
Последствия существующего процесса технологического присоединения



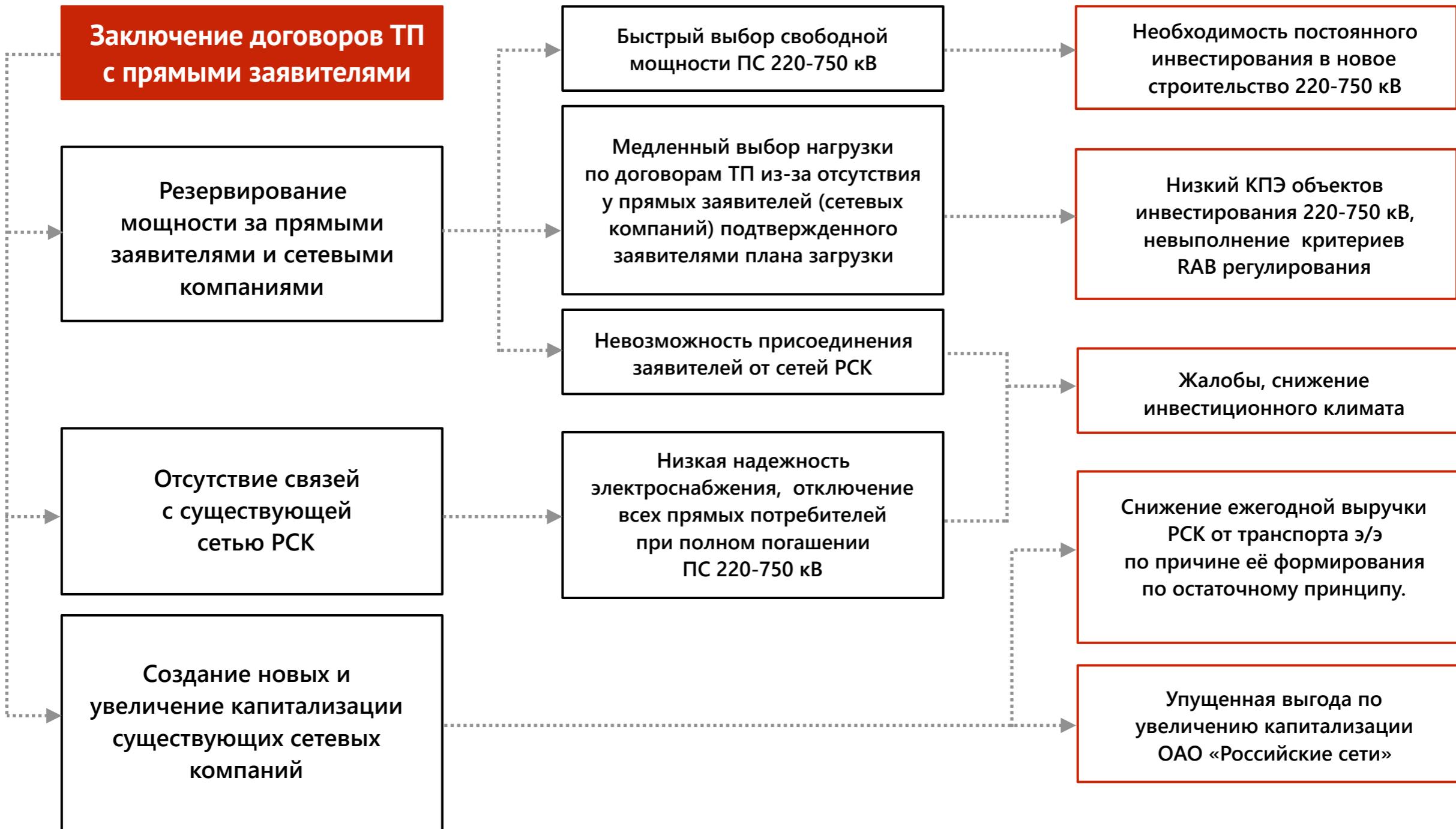
Последствия существующего процесса технологического присоединения



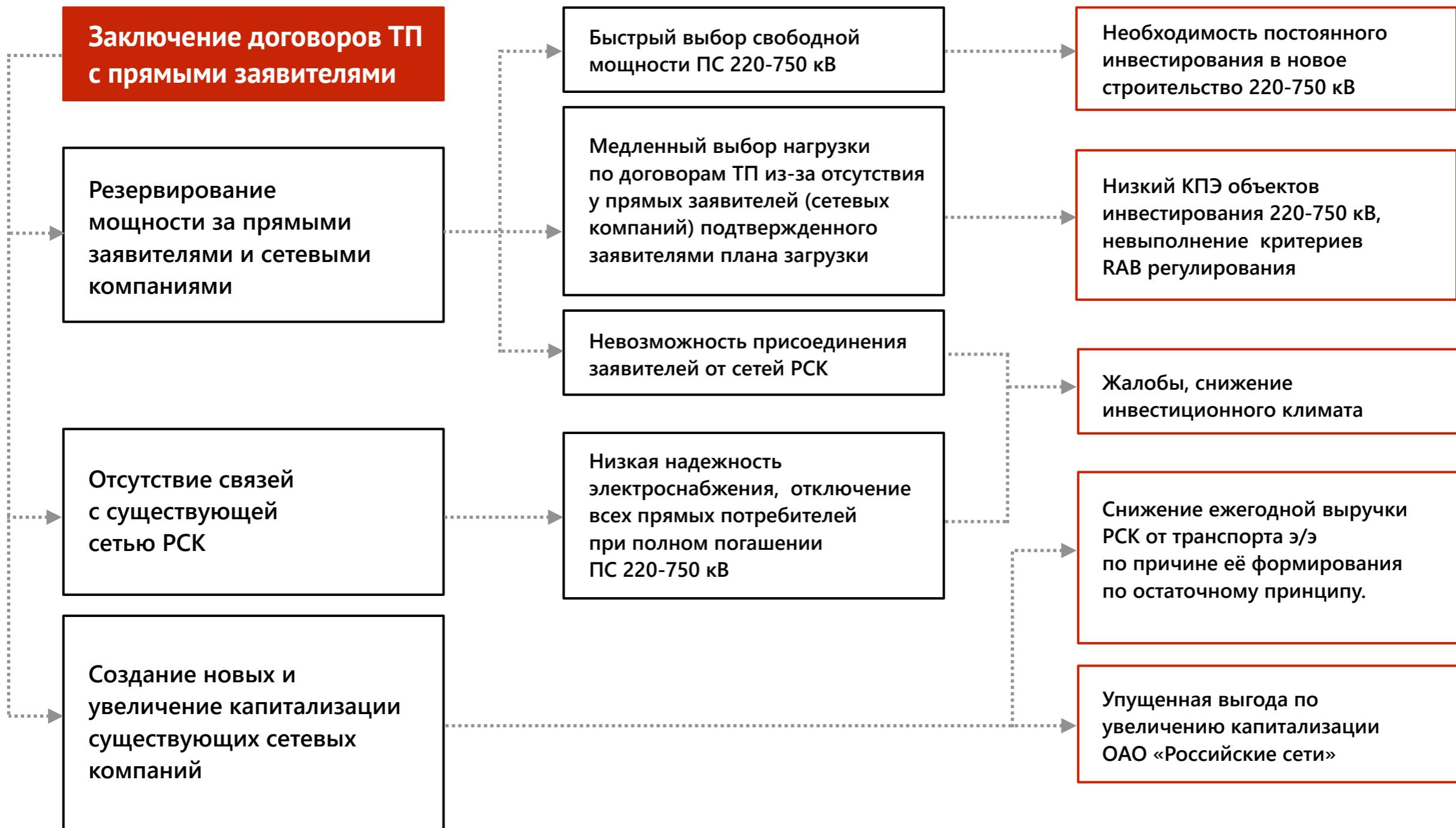
Последствия существующего процесса технологического присоединения



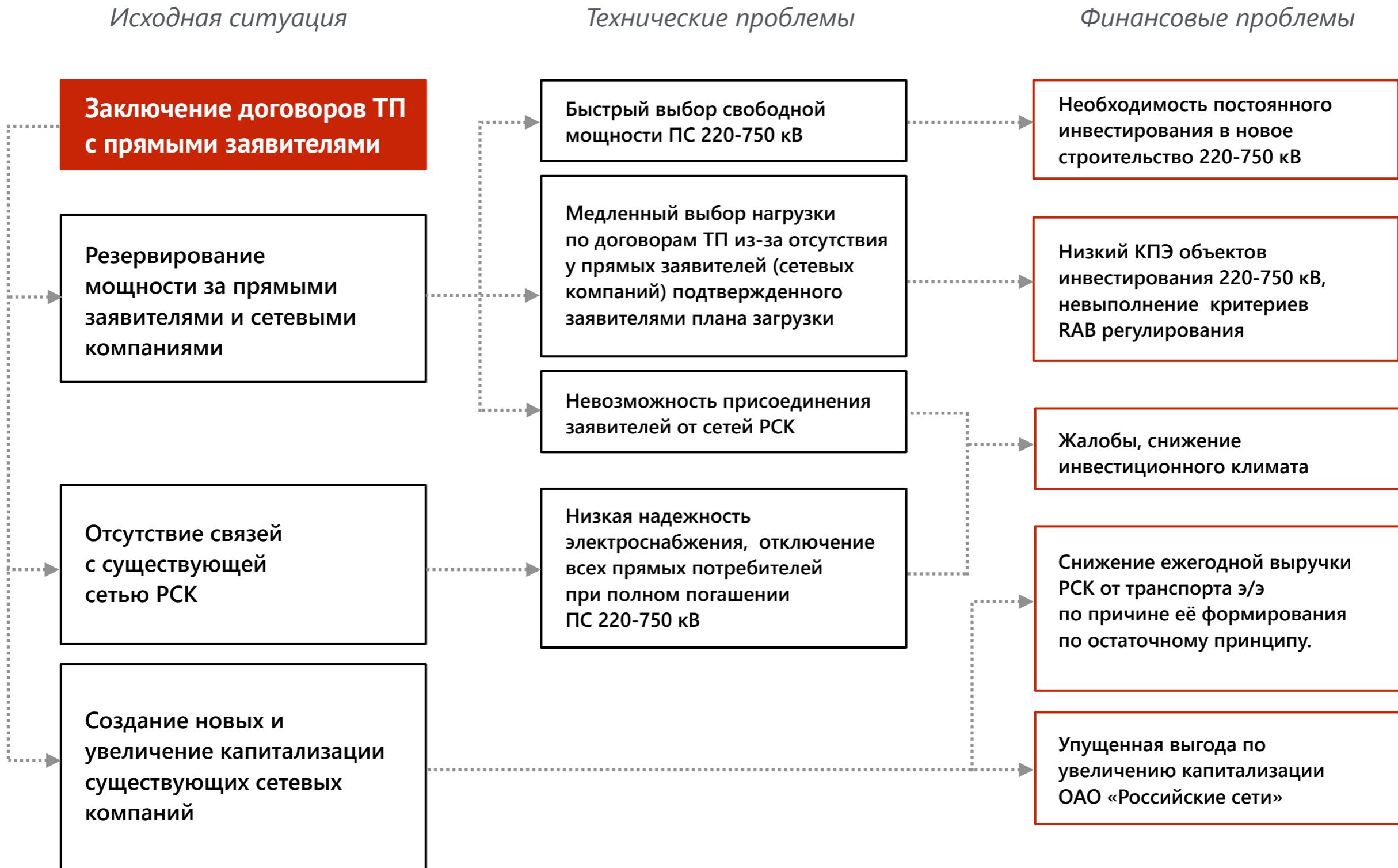
Последствия существующего процесса технологического присоединения



Последствия существующего процесса технологического присоединения

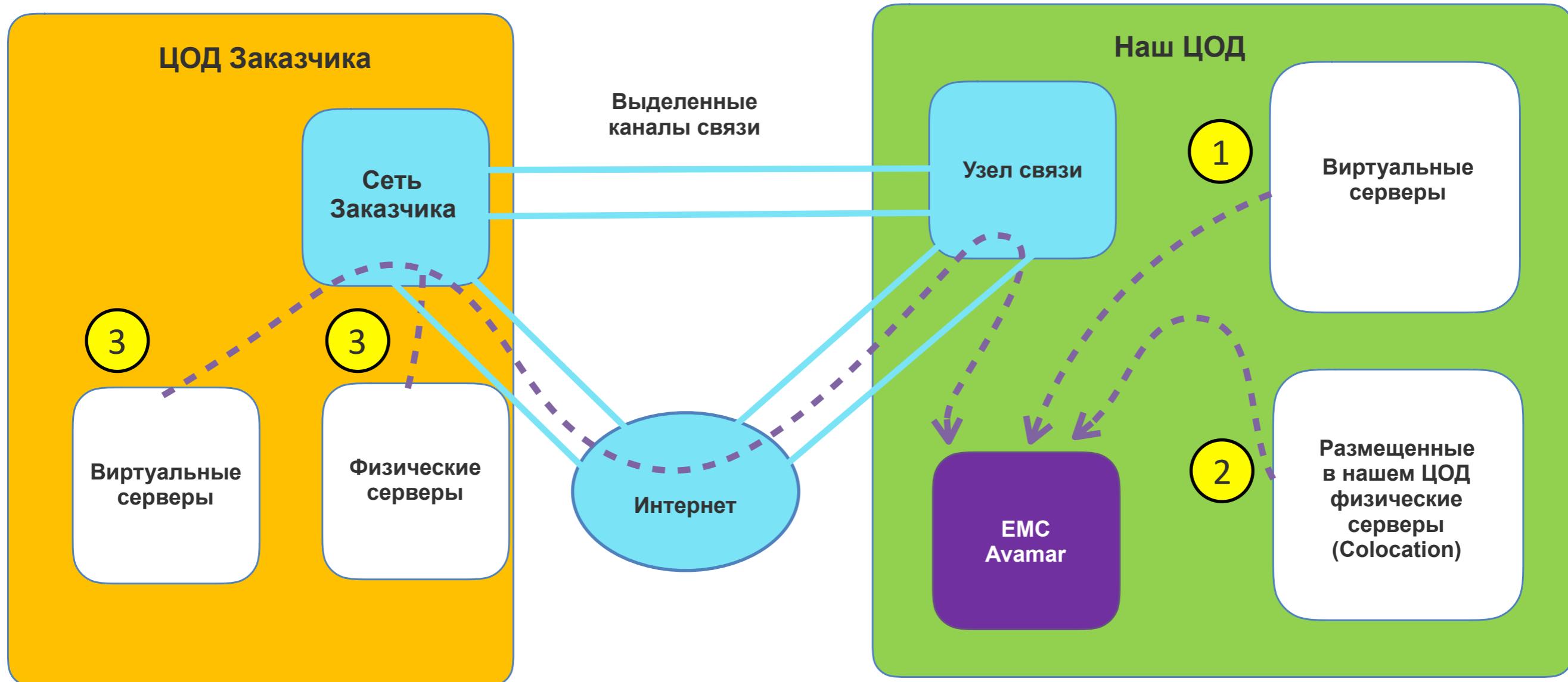


Последствия существующего процесса технологического присоединения





РЕЗЕРВНОЕ КОПИРОВАНИЕ ДАННЫХ. ОБЛАСТИ ПРИМЕНЕНИЯ

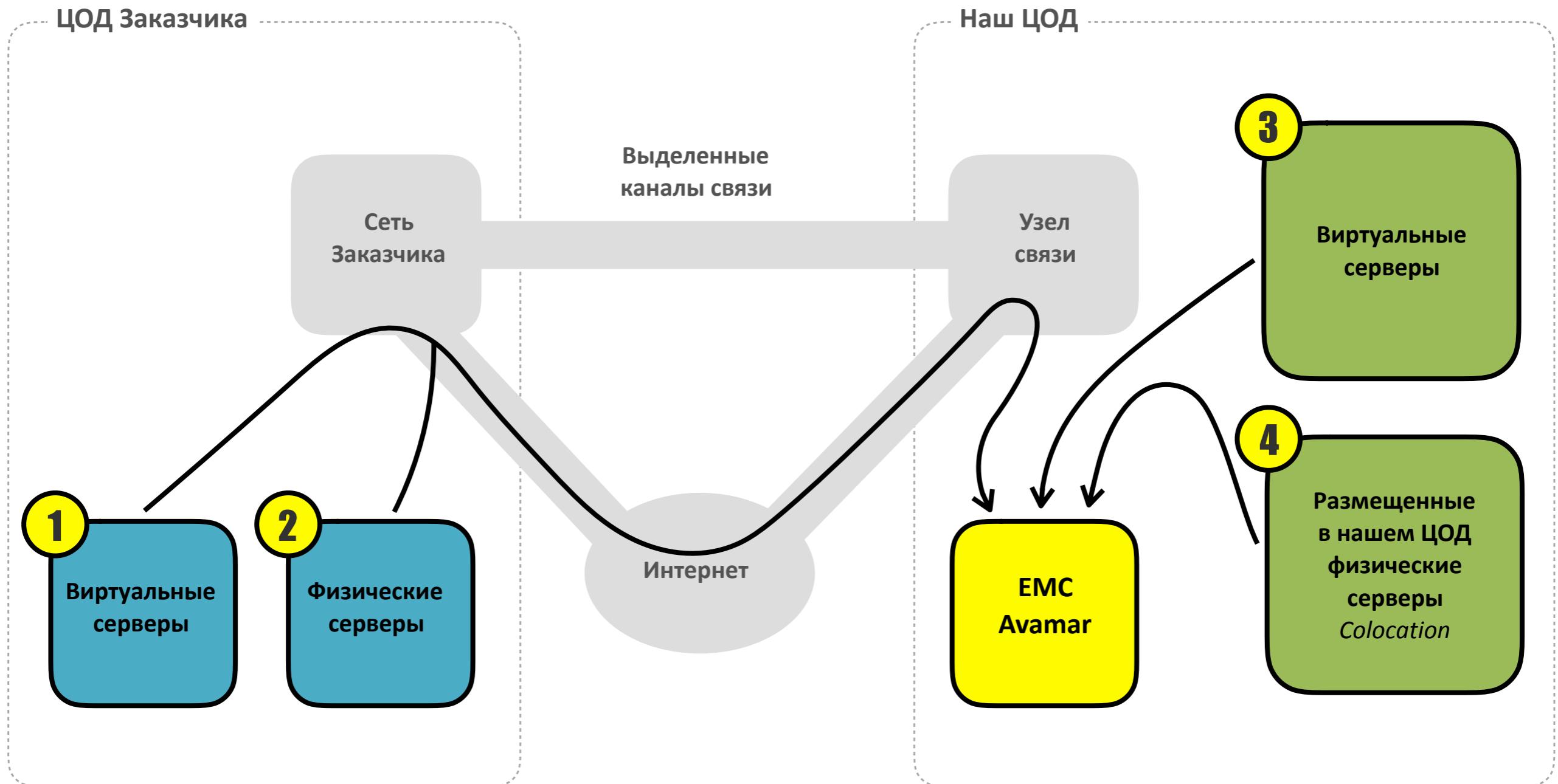


Что можно бэкапить:

- 1** Виртуальные серверы облака
- 2** Физическое оборудование, размещенное в нашем ЦОД
- 3** Физические и виртуальные серверы Заказчиков

РЕЗЕРВНОЕ КОПИРОВАНИЕ ДАННЫХ

N — возможности для резервного копирования данных



Process

Process

- Create 3-5 focal points using color, size and icons

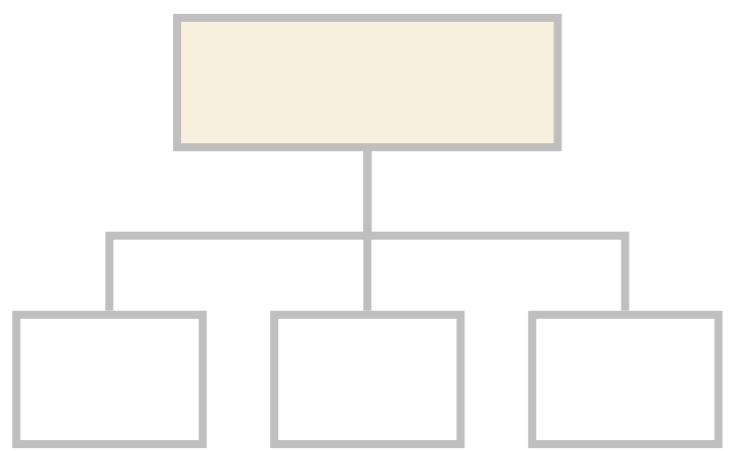
Process

- Create 3-5 focal points using color, size and icons
- You have to really think about the meaning of the diagram

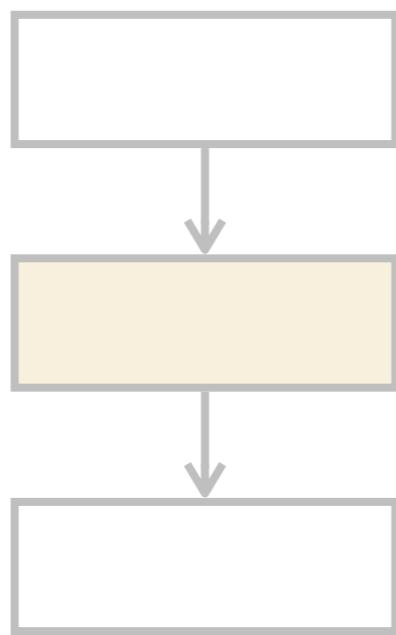
Process

- Create 3-5 focal points using color, size and icons
- You have to really think about the meaning of the diagram
- Dim or remove everything else

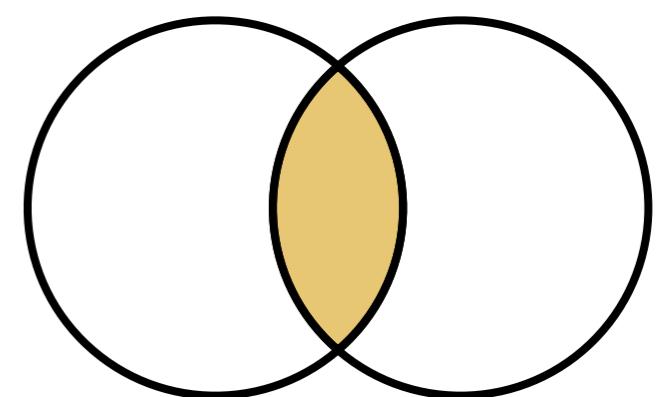
Relationships



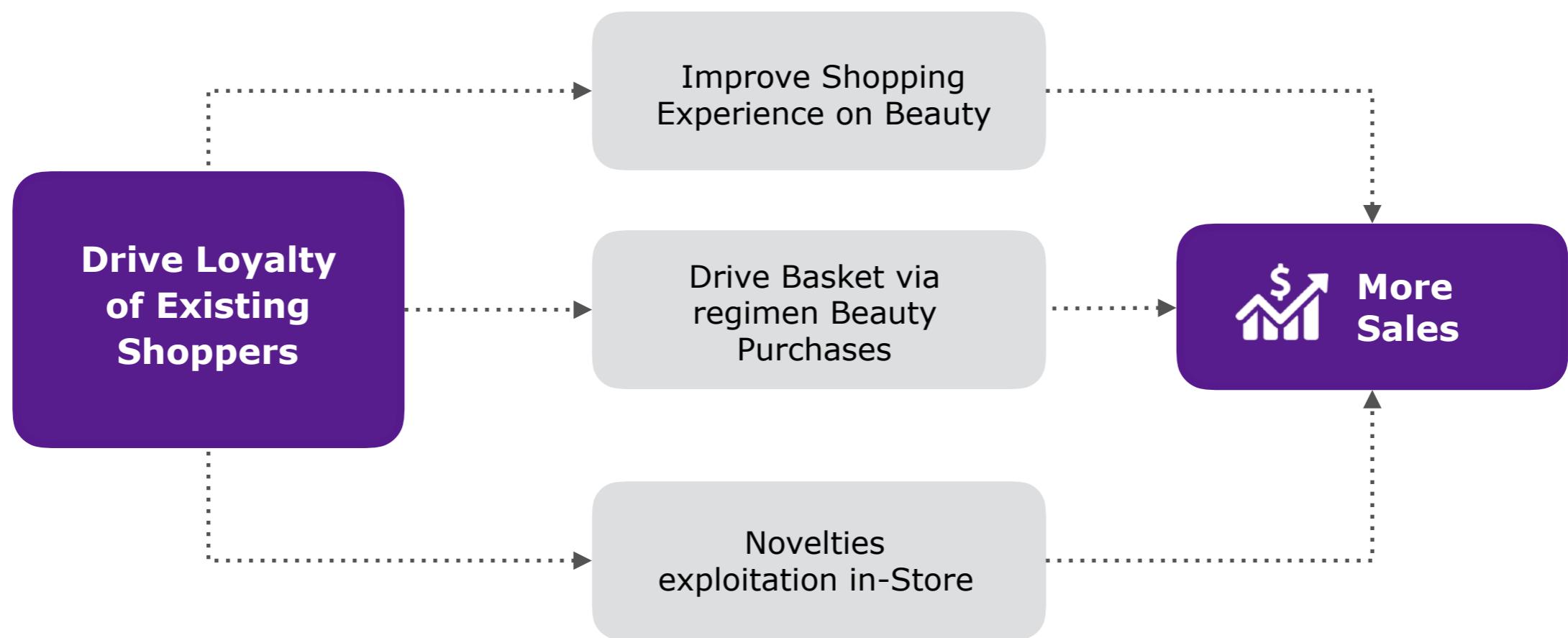
Hierarchy

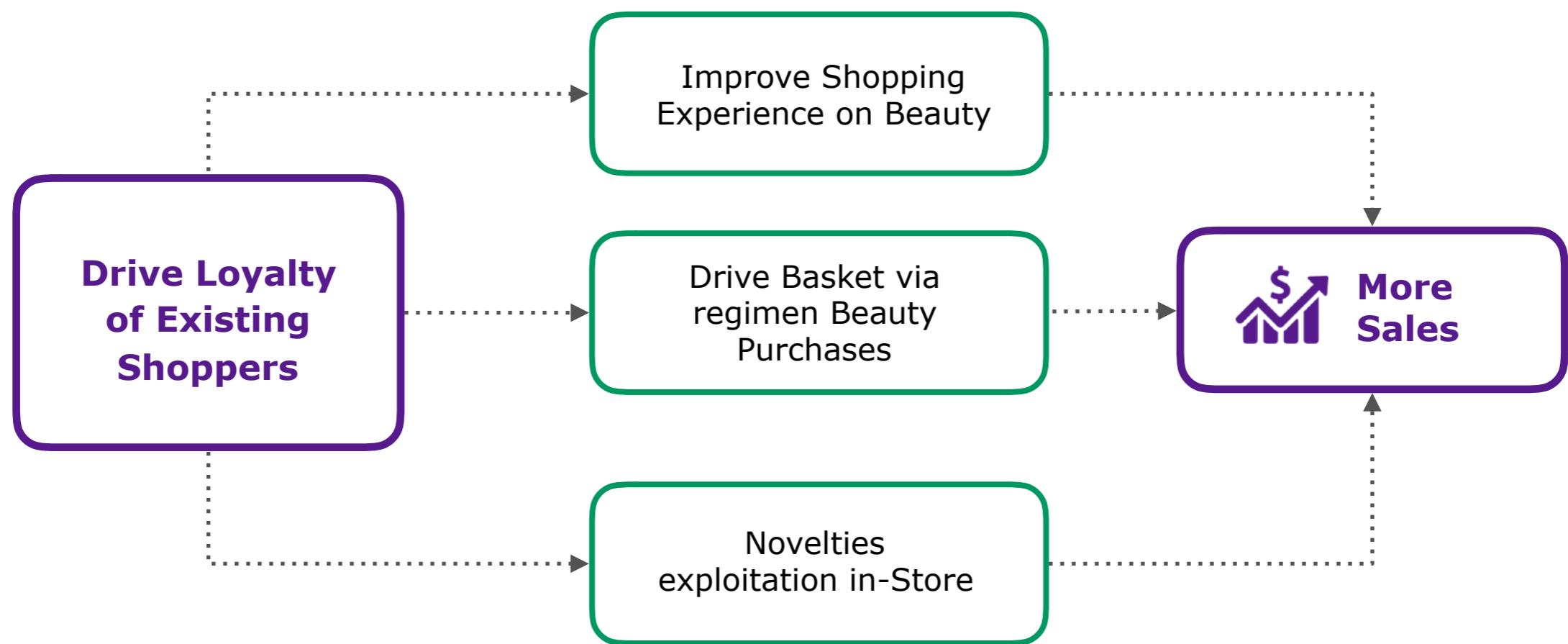


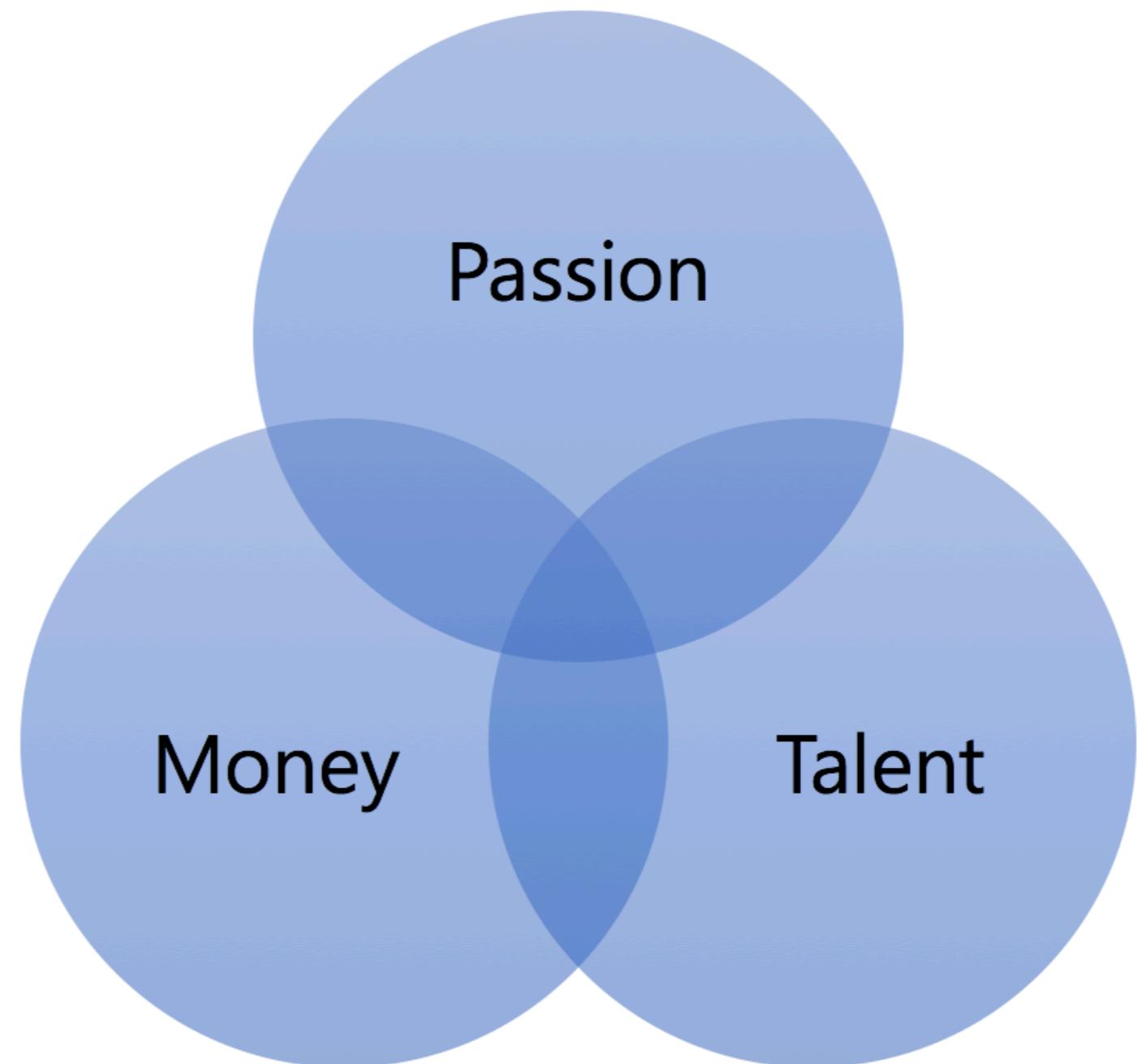
Process

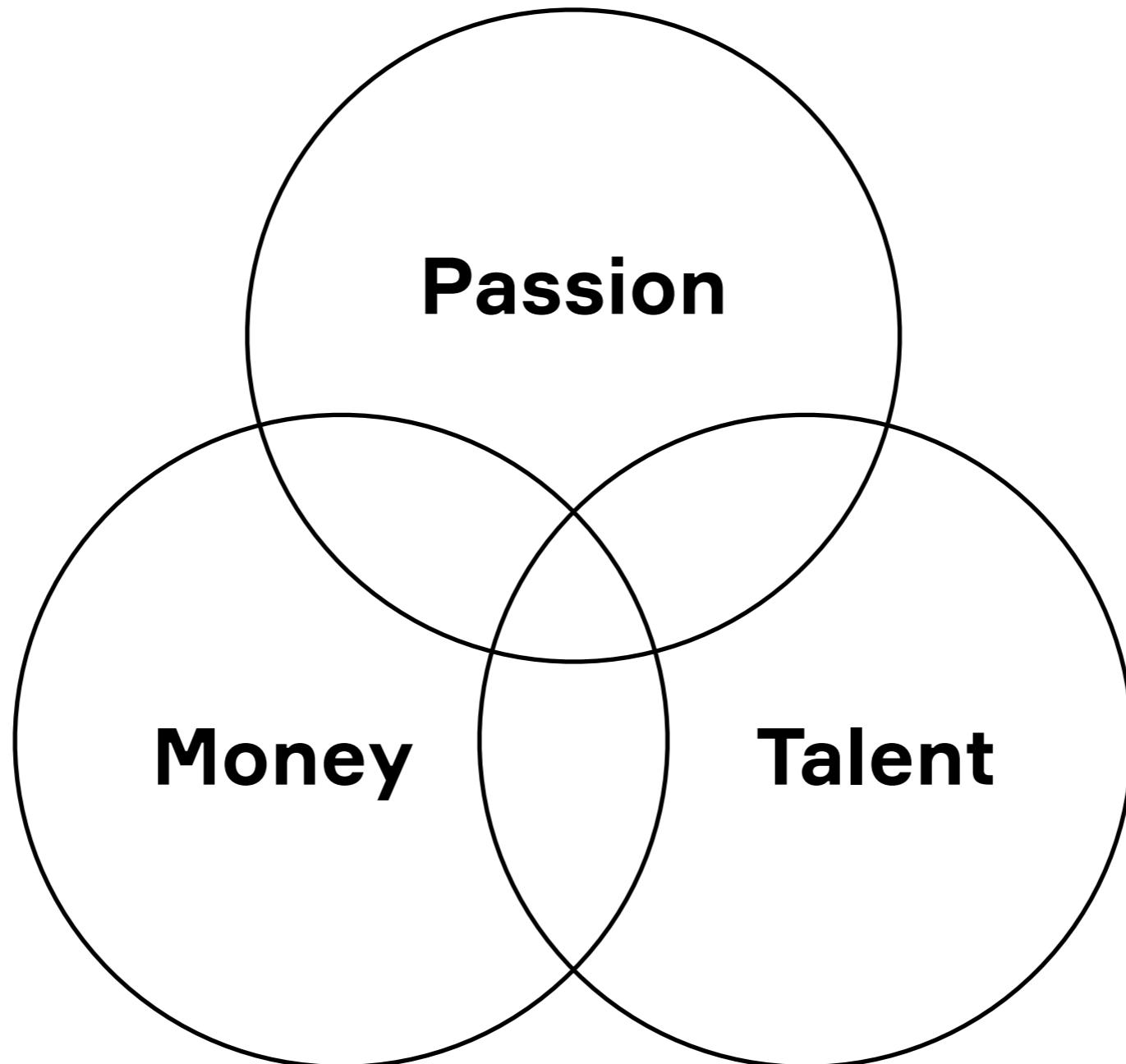


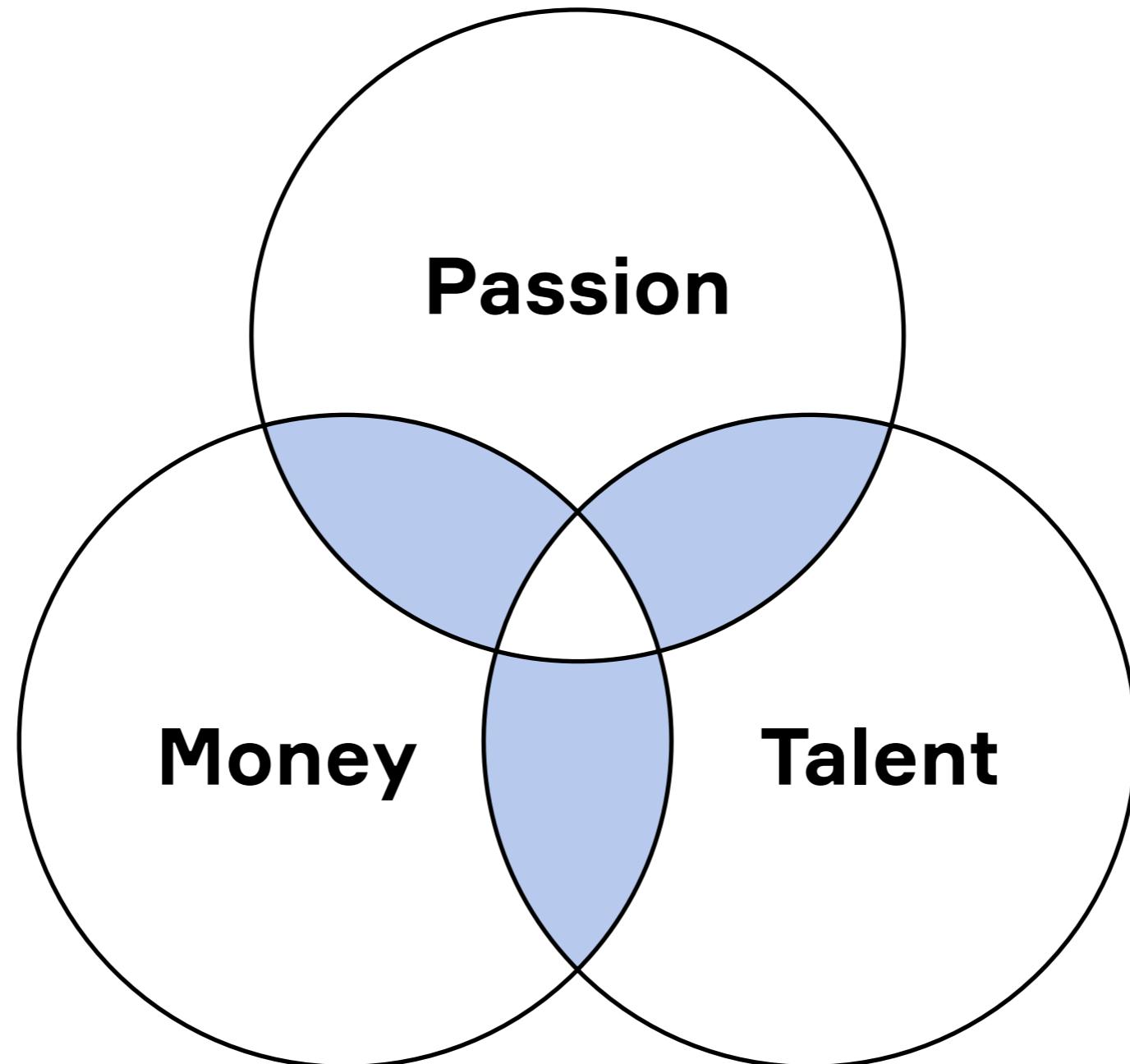
Relationships

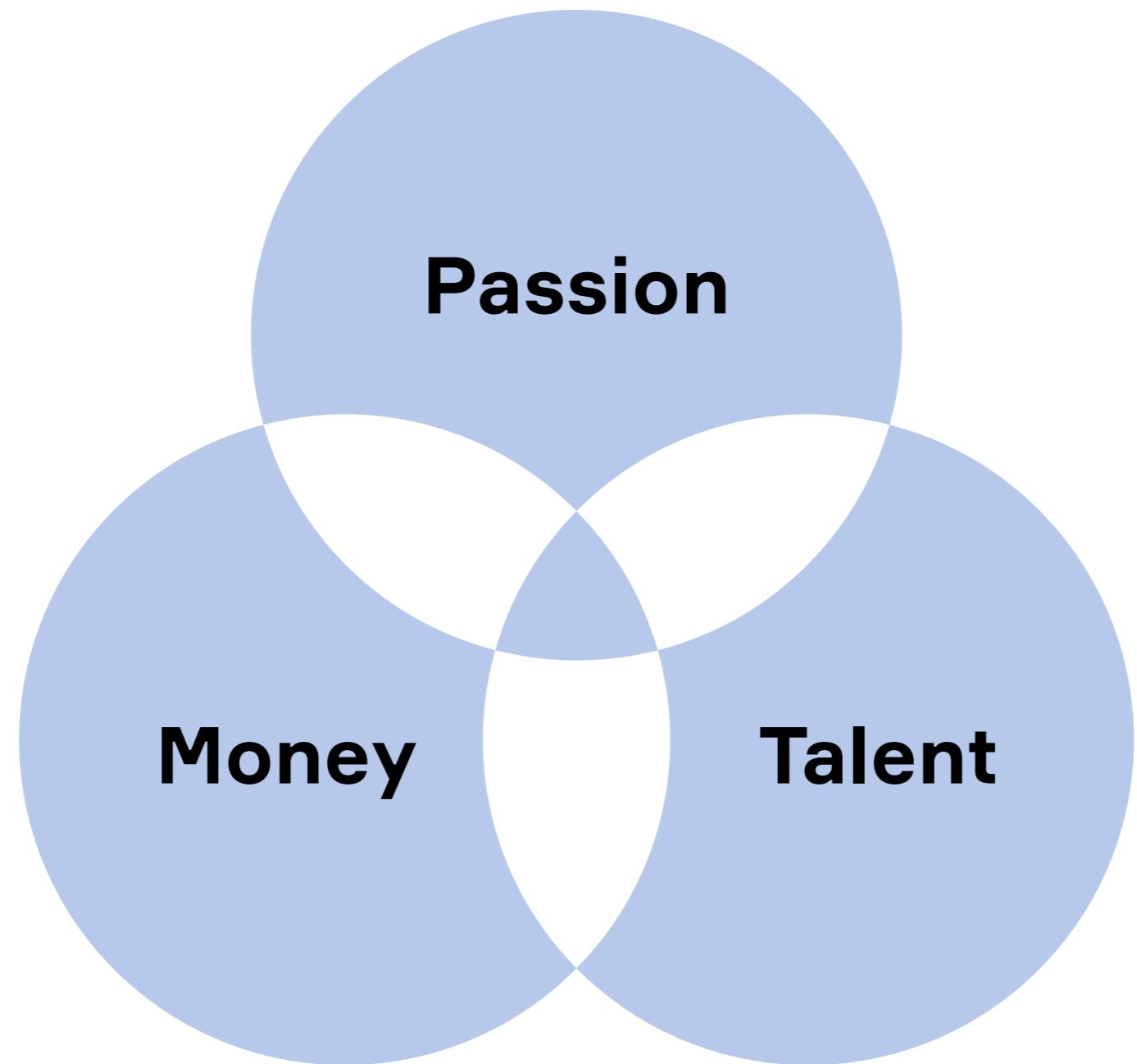






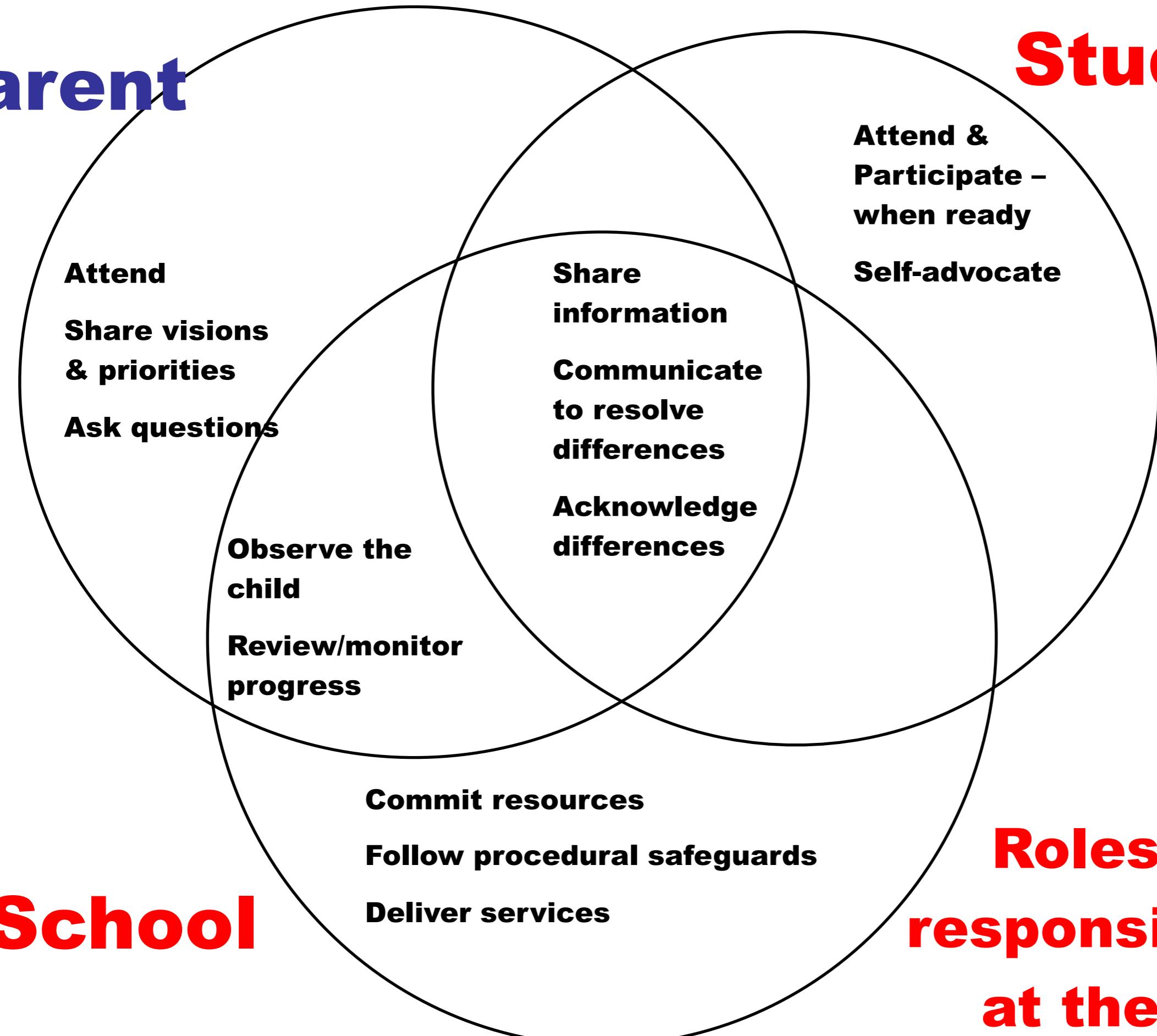






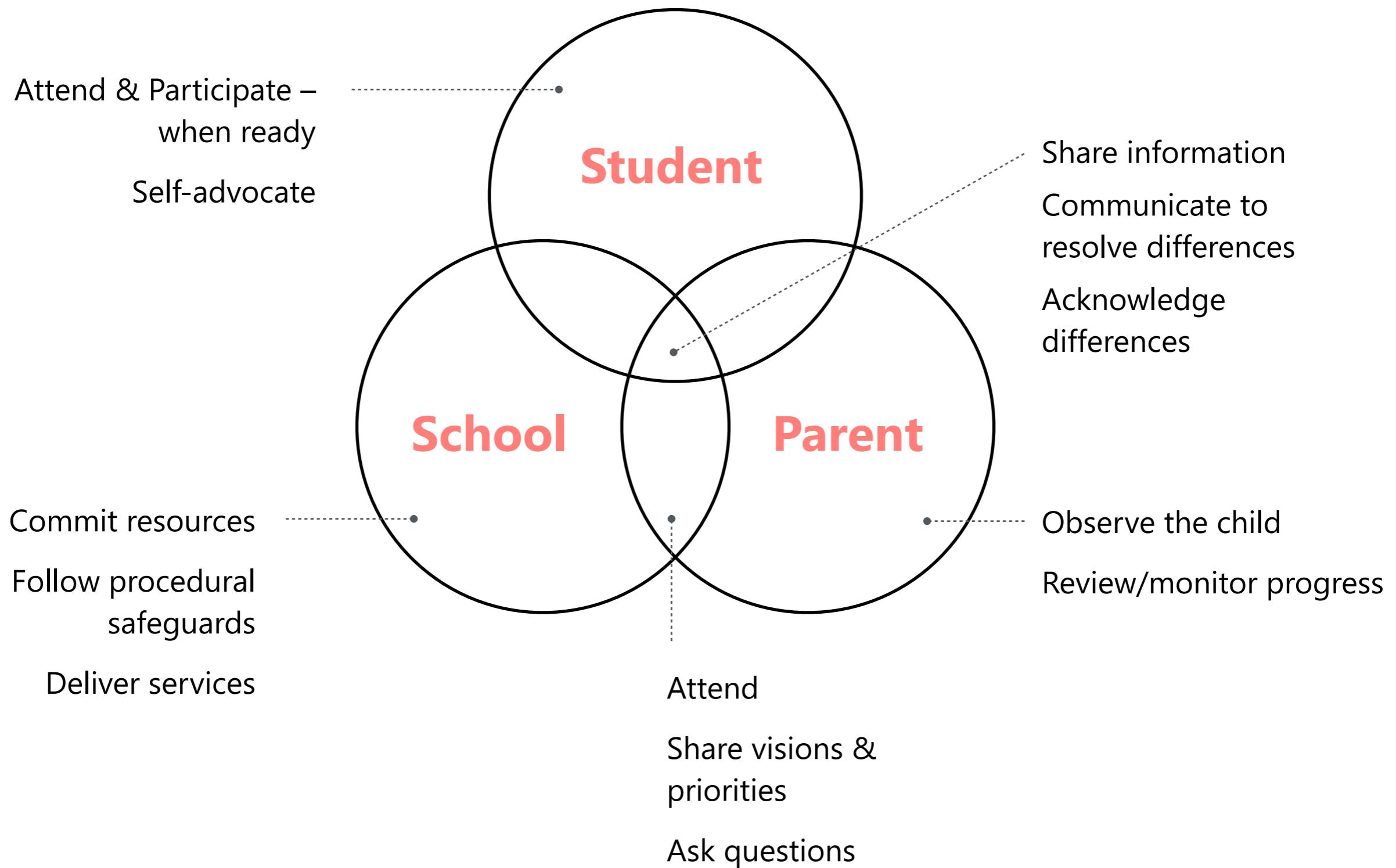
Parent

Student

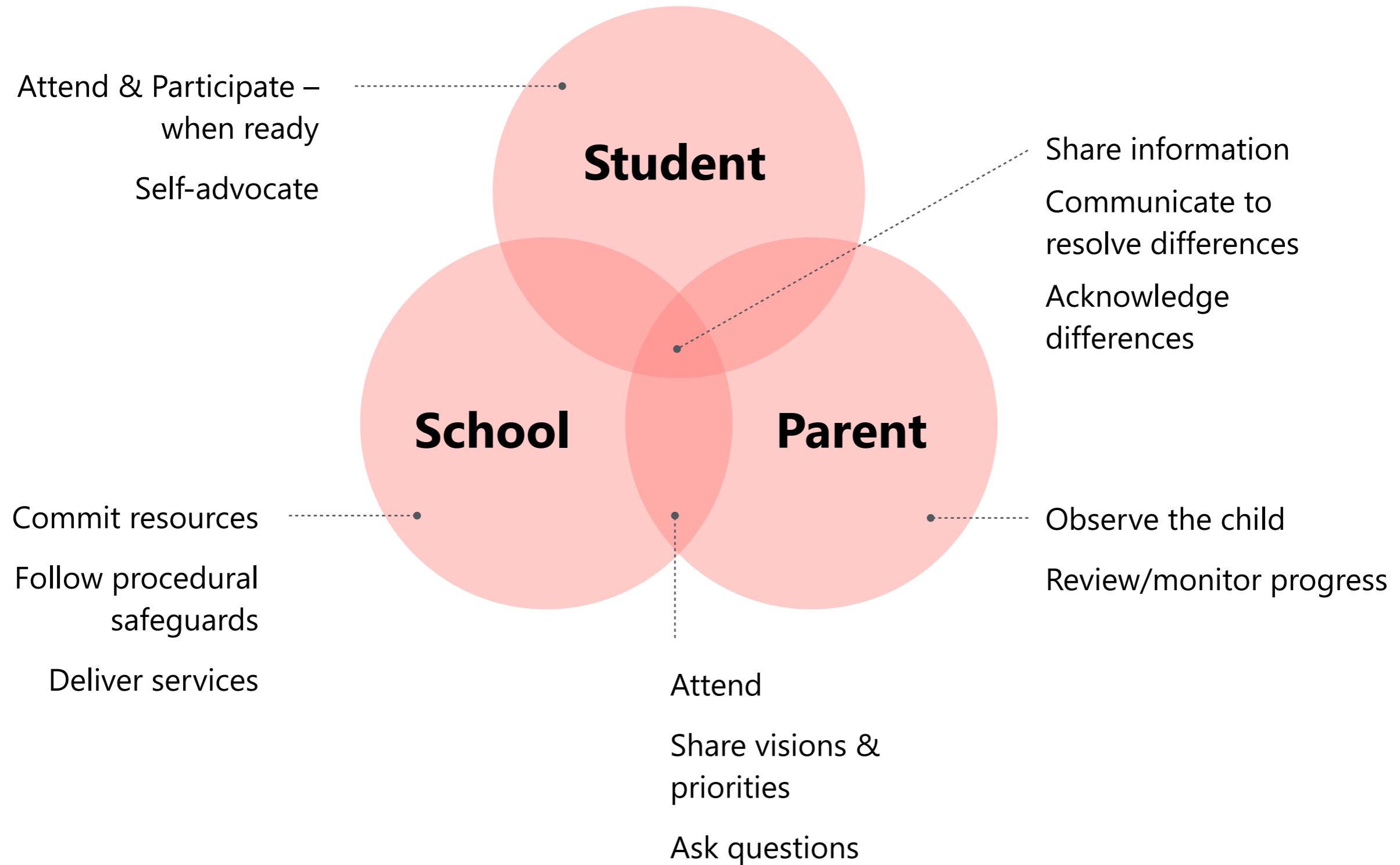


Roles and responsibilities at the PPT

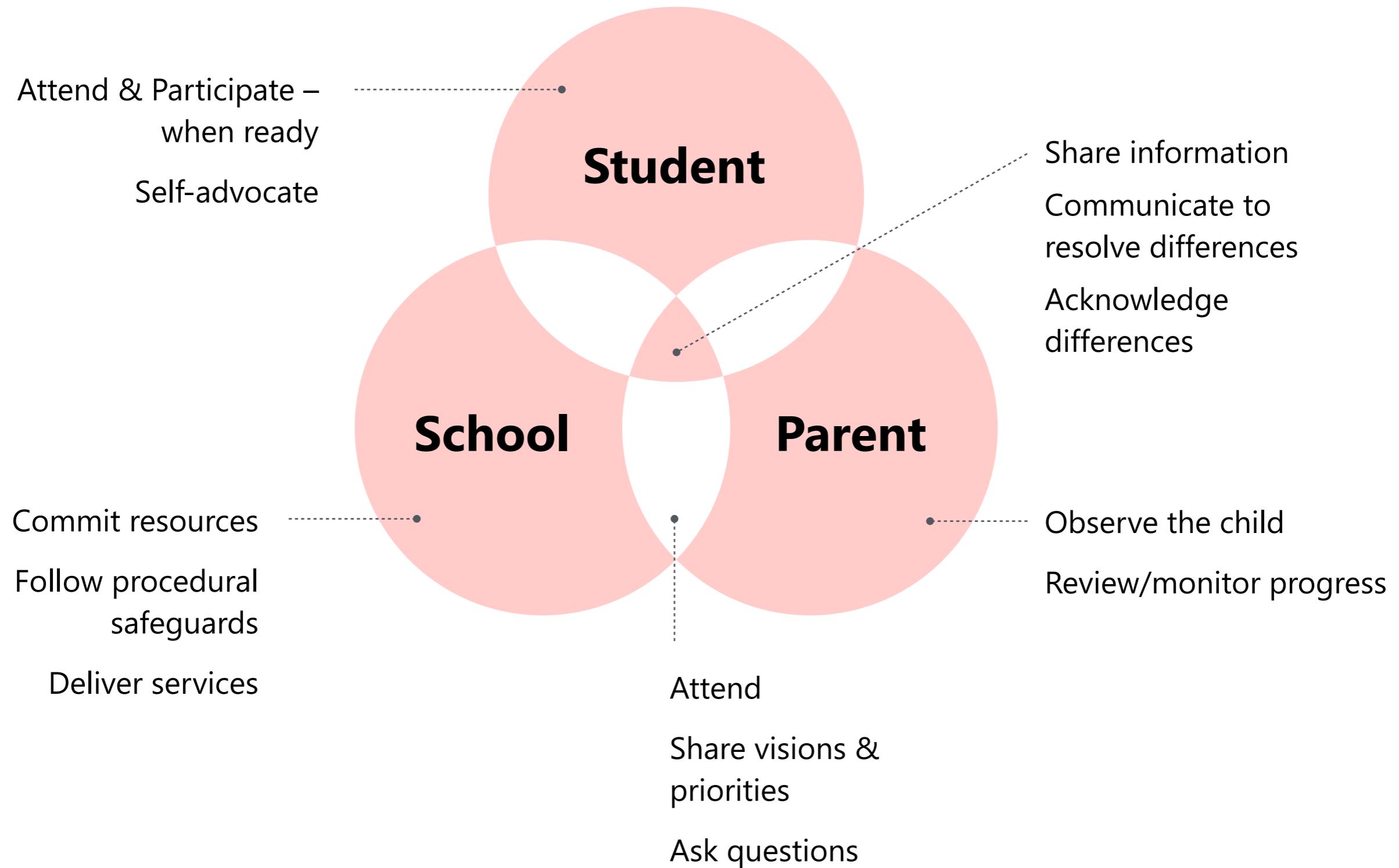
Roles and responsibilities at the PPT



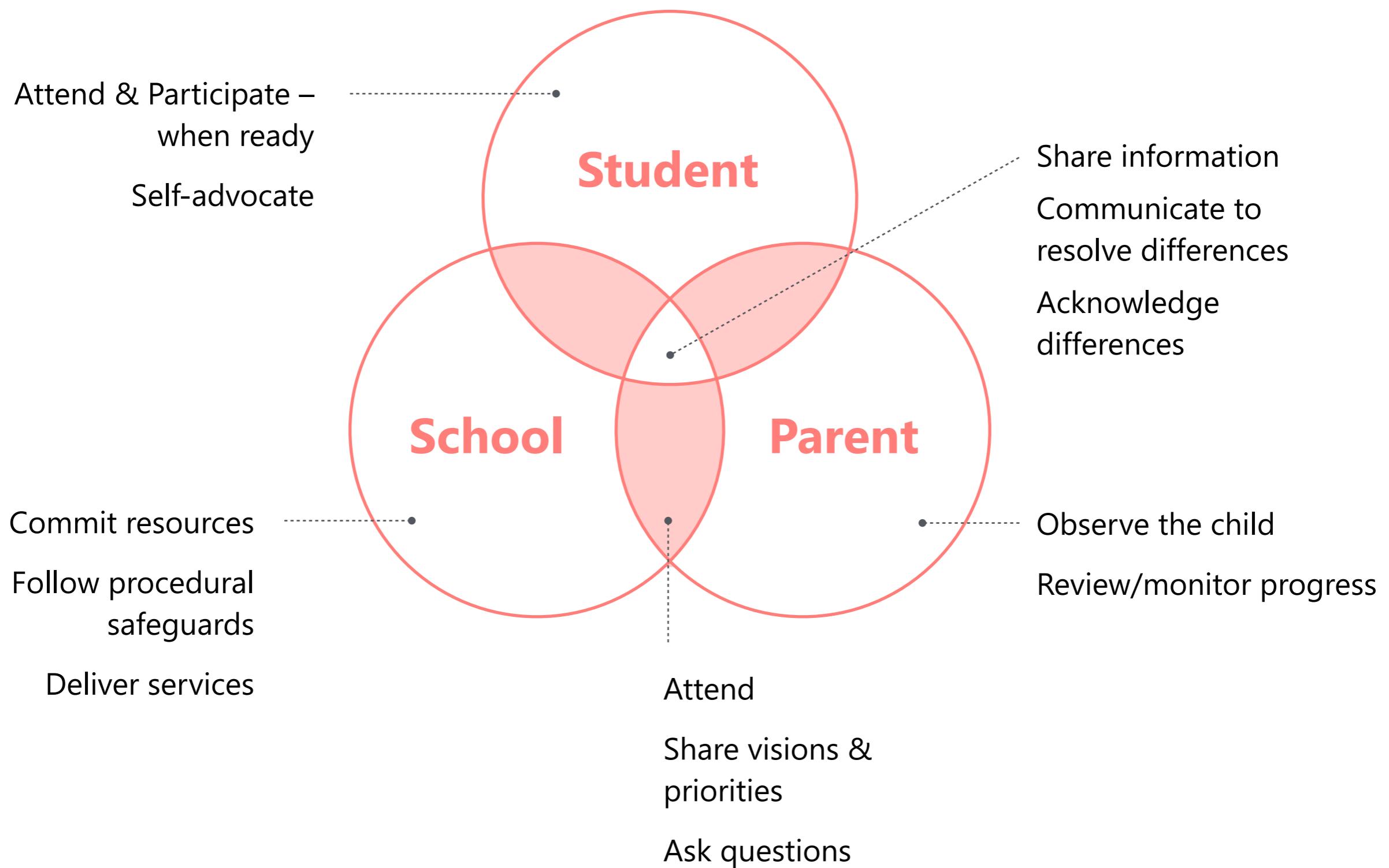
Roles and responsibilities at the PPT

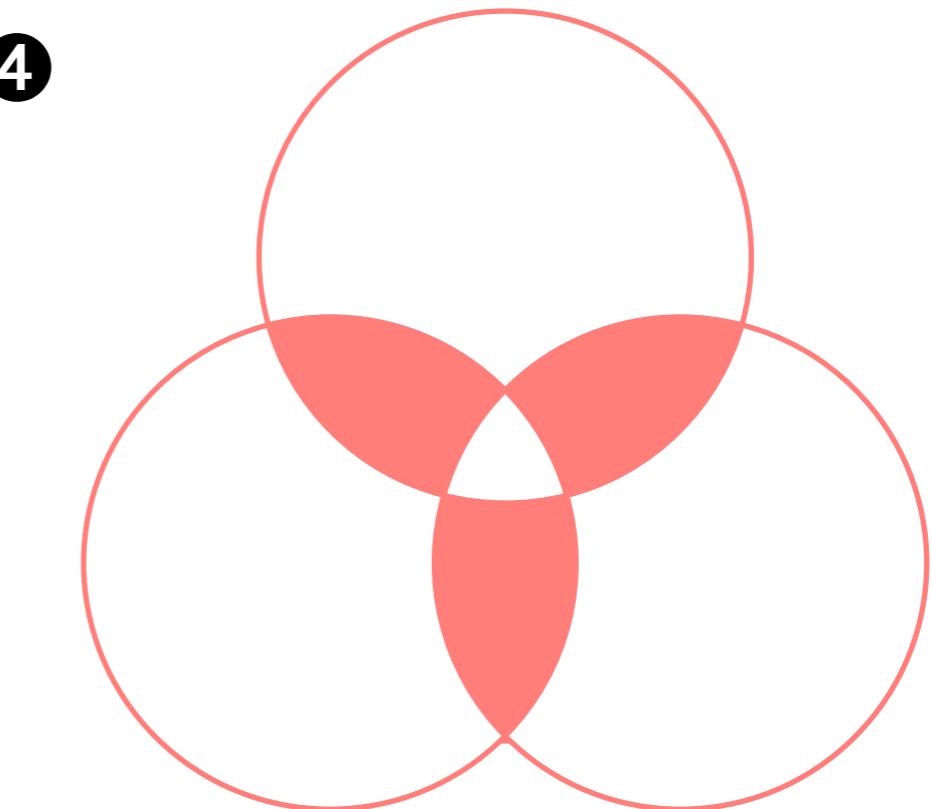
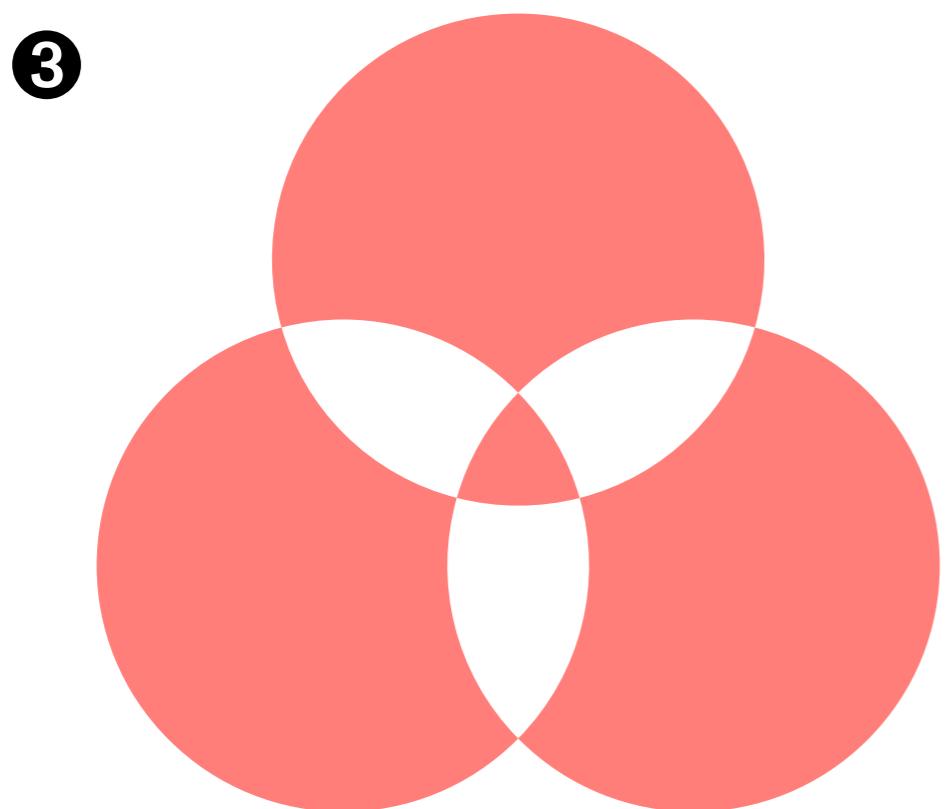
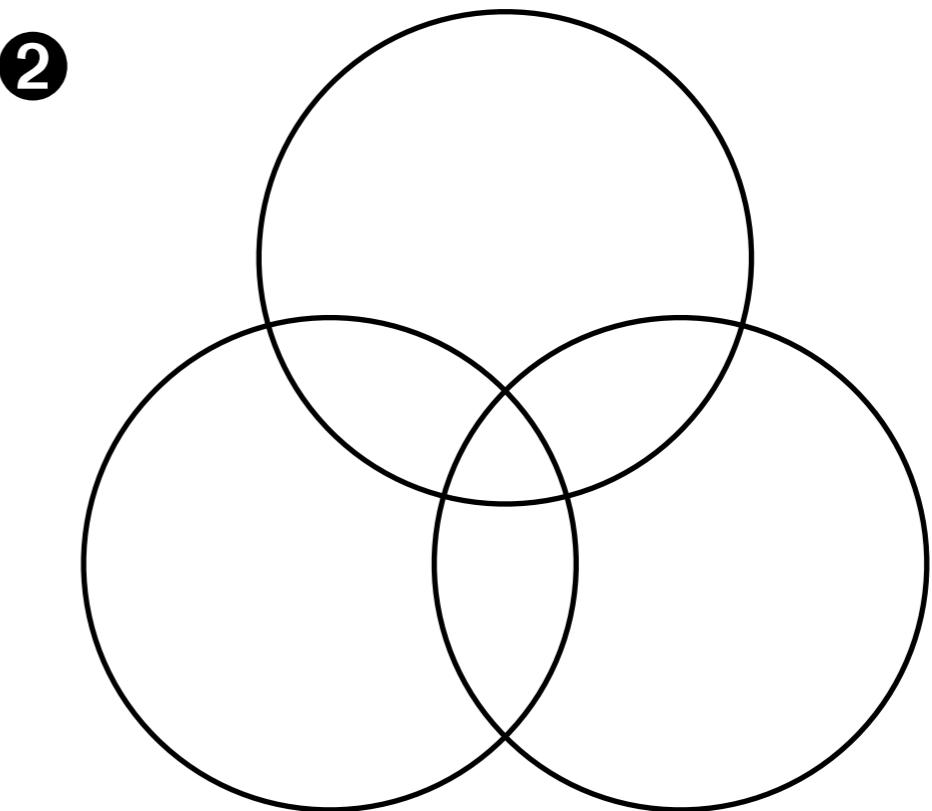
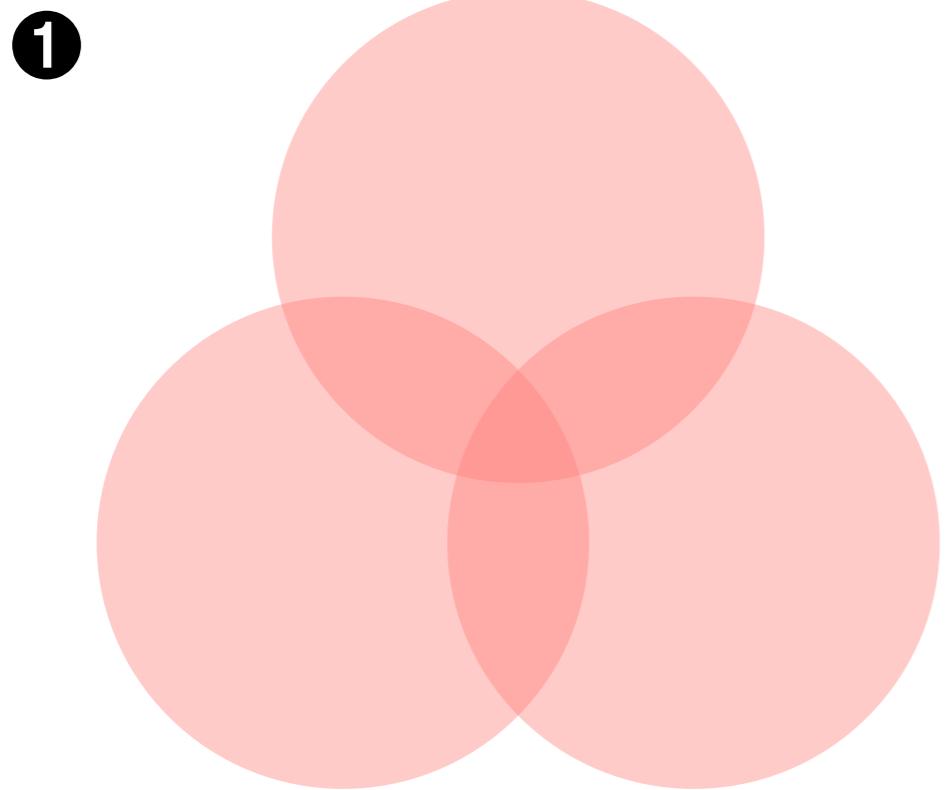


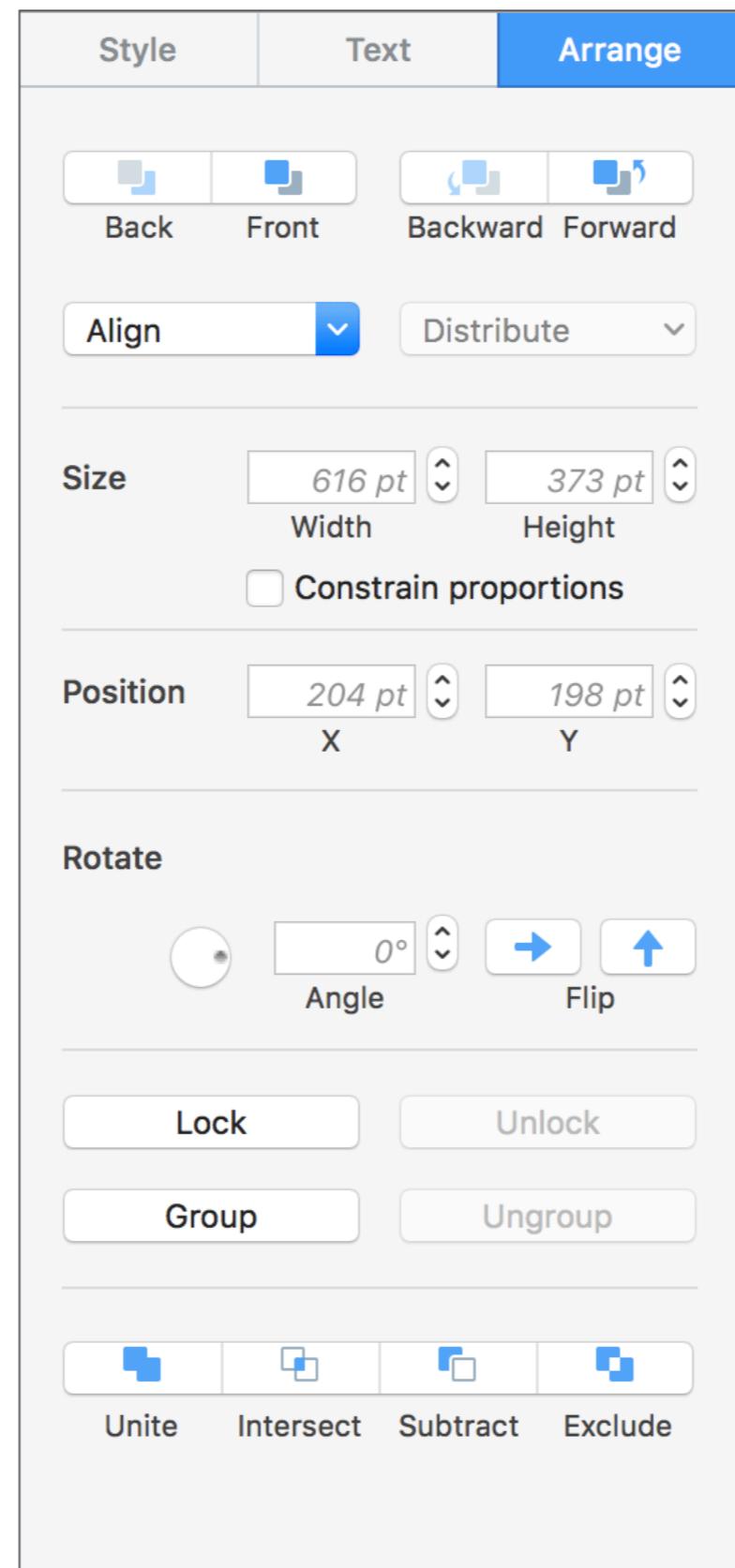
Roles and responsibilities at the PPT

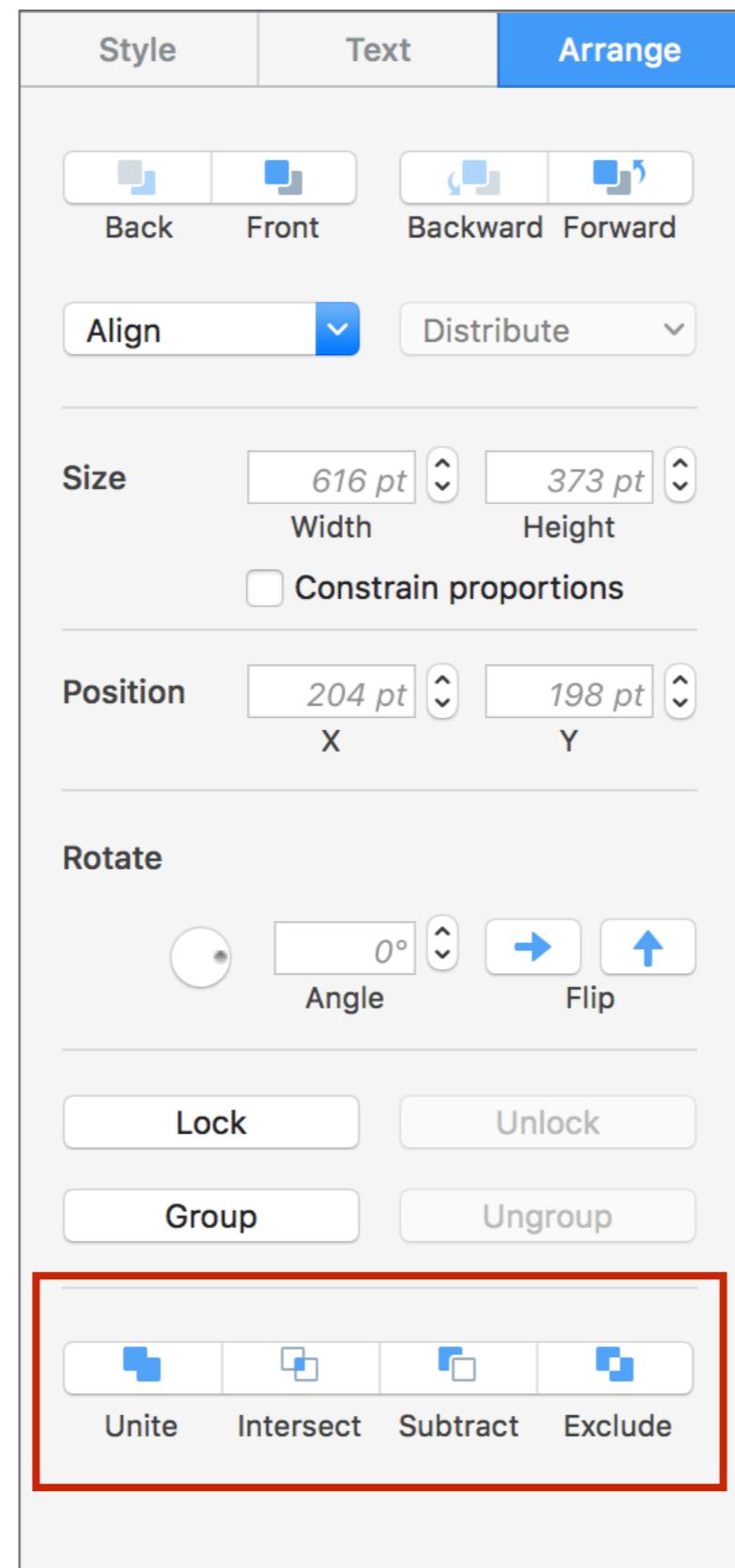


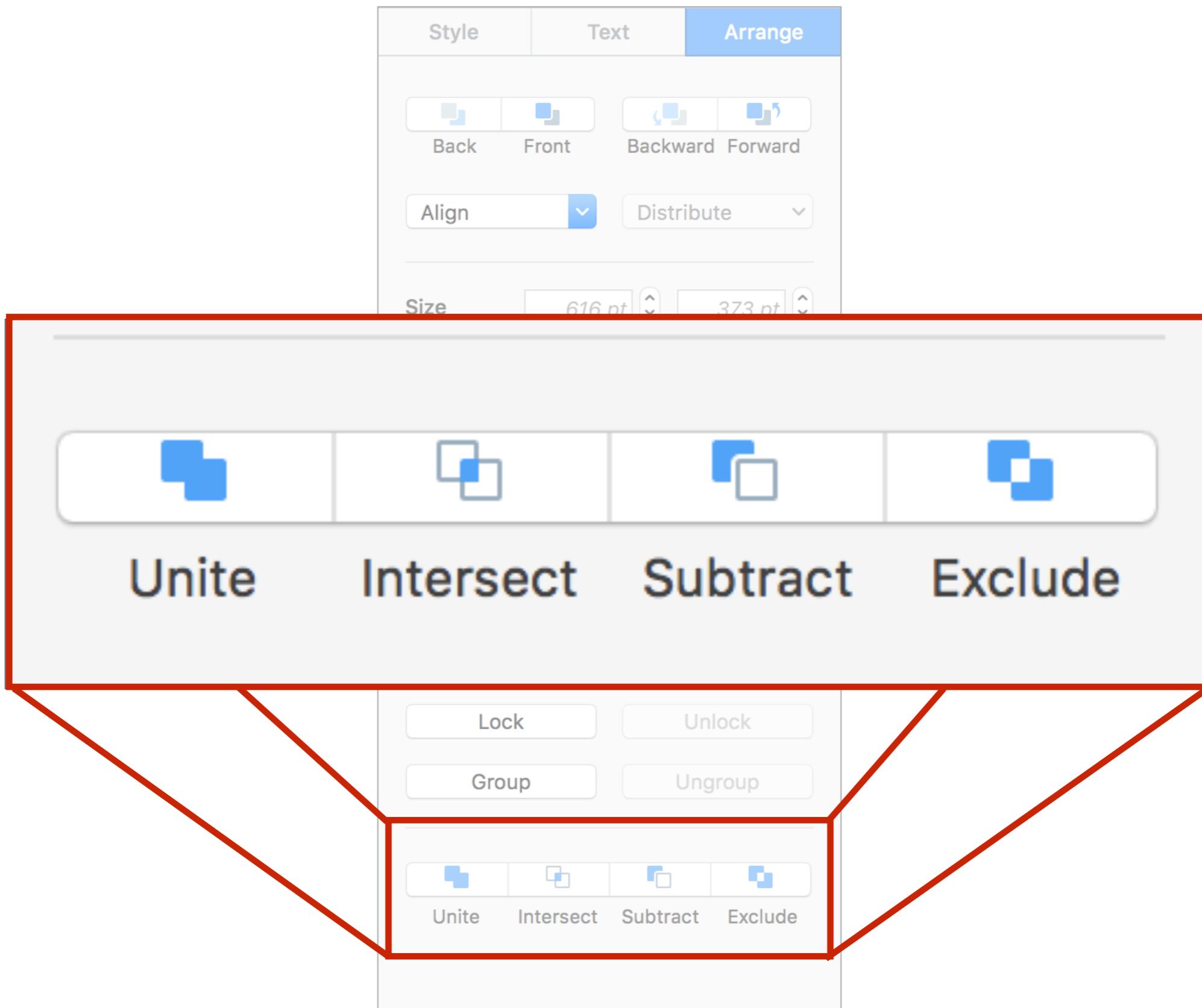
Roles and responsibilities at the PPT

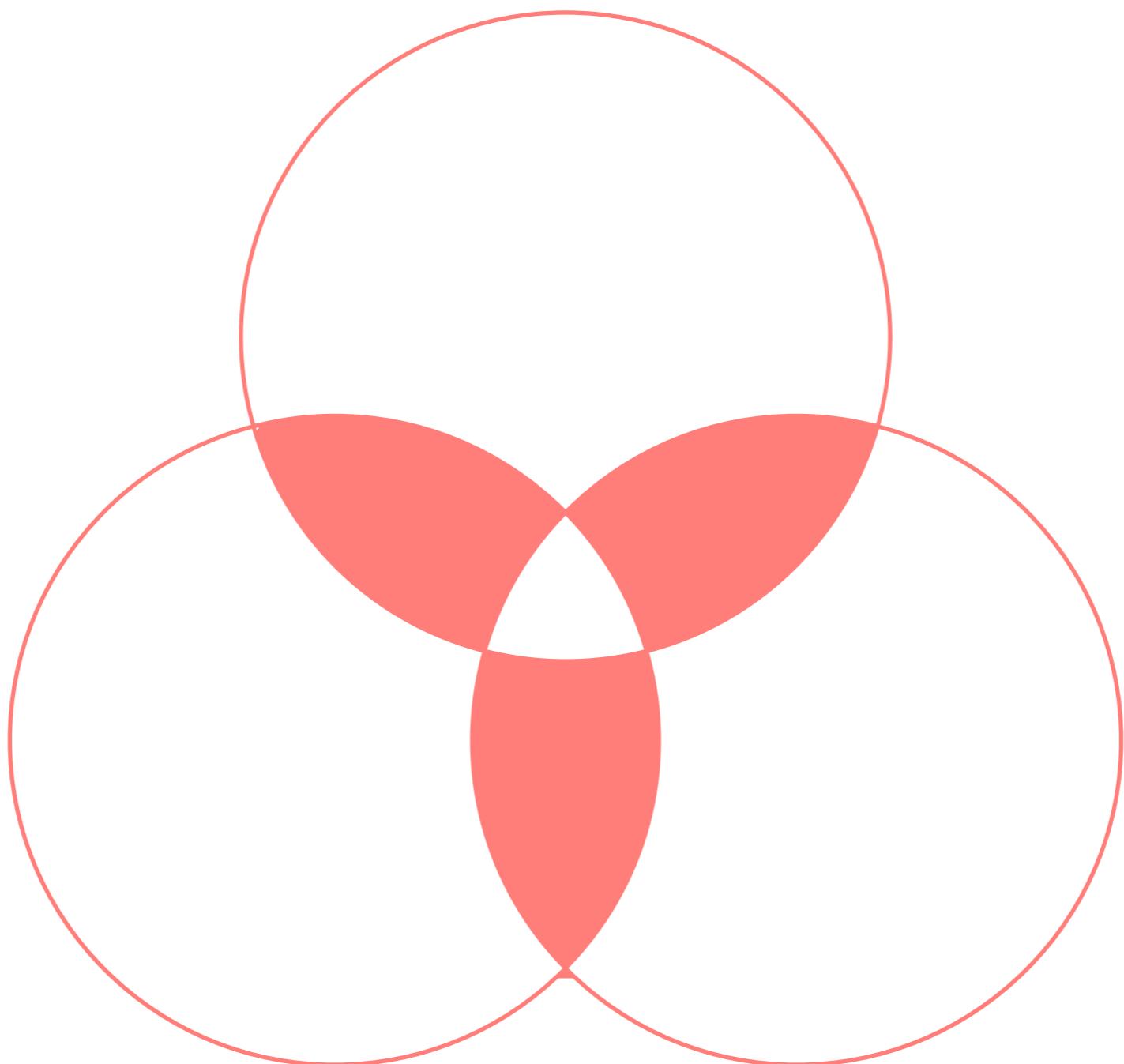


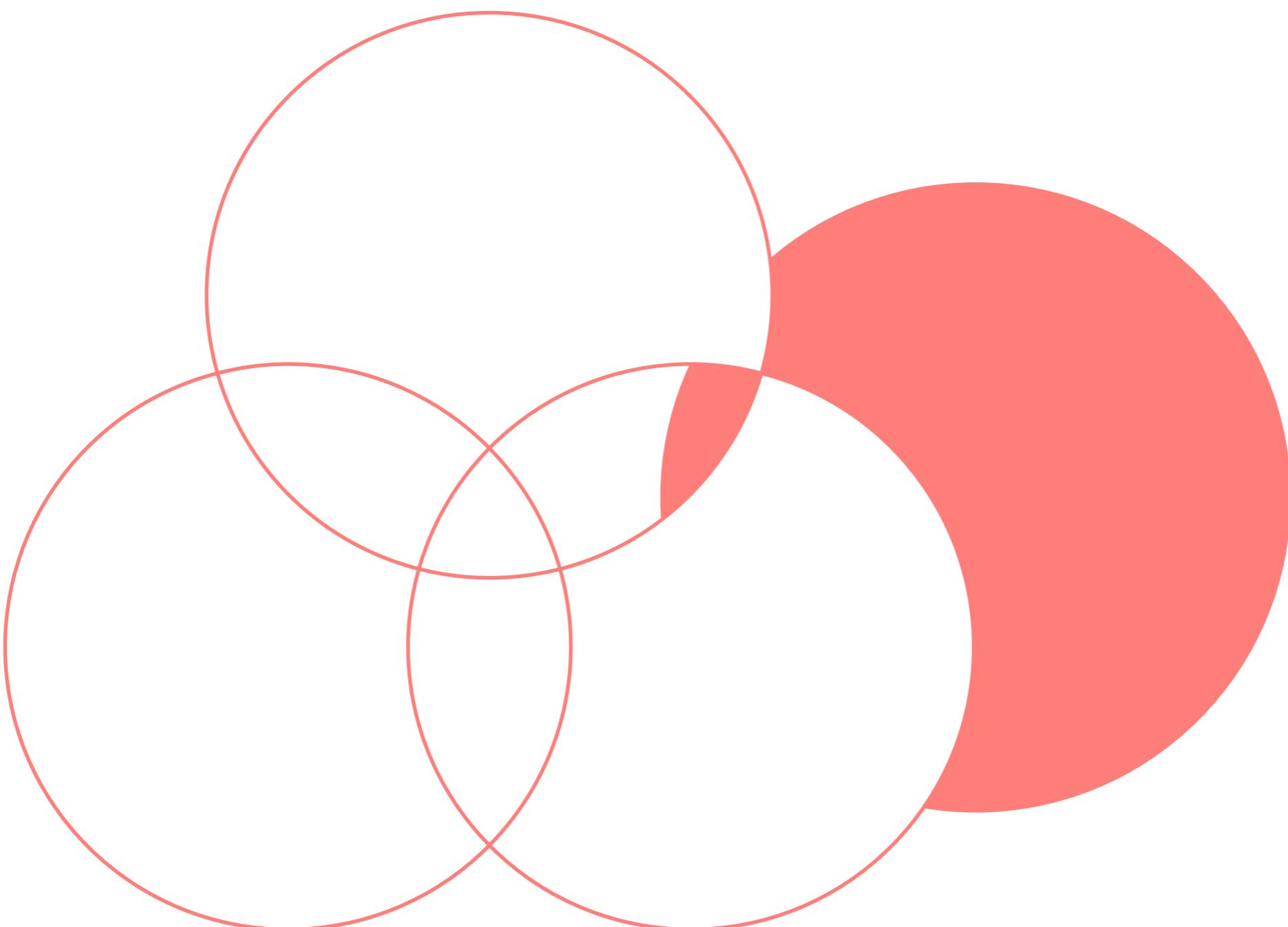


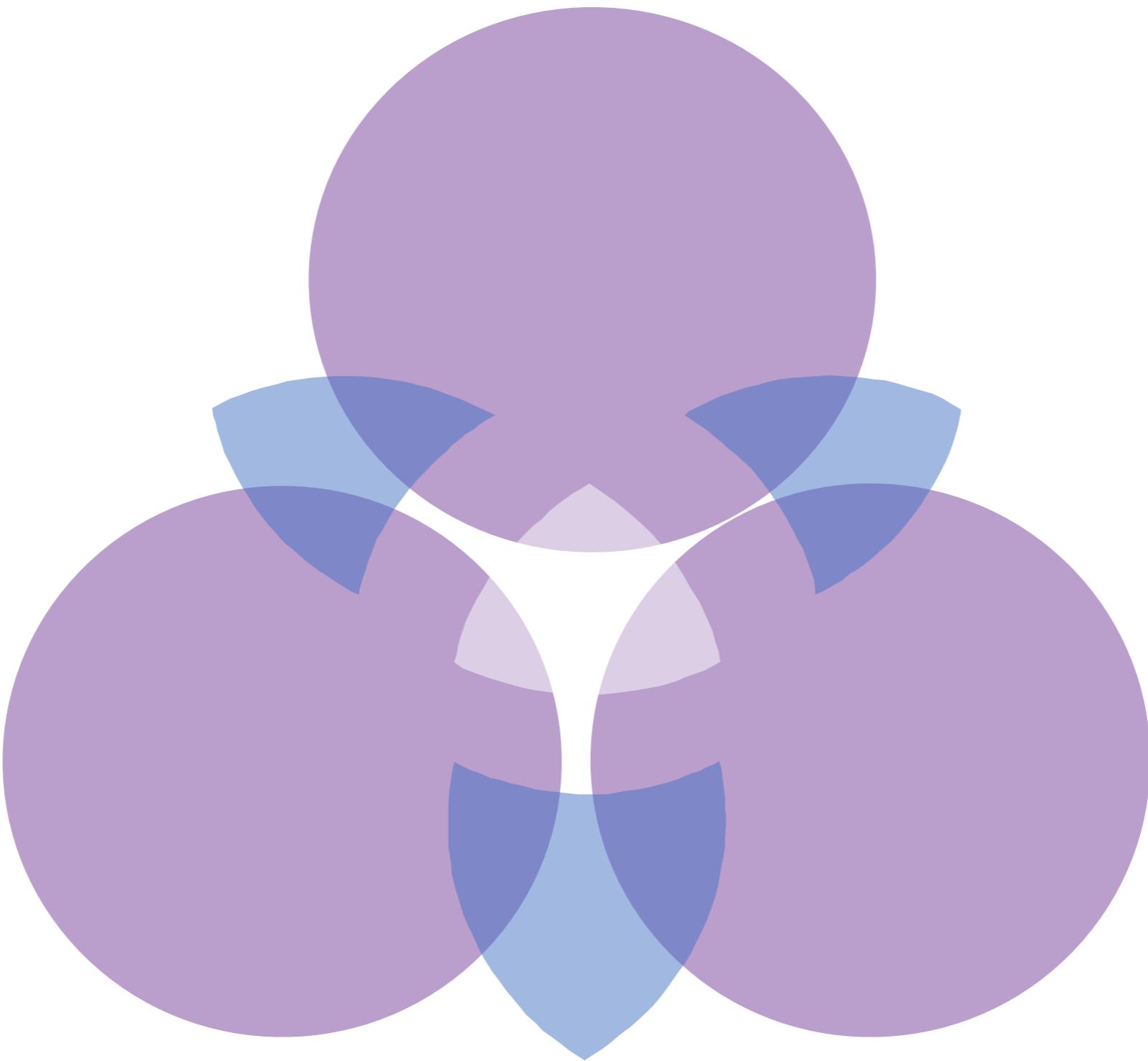




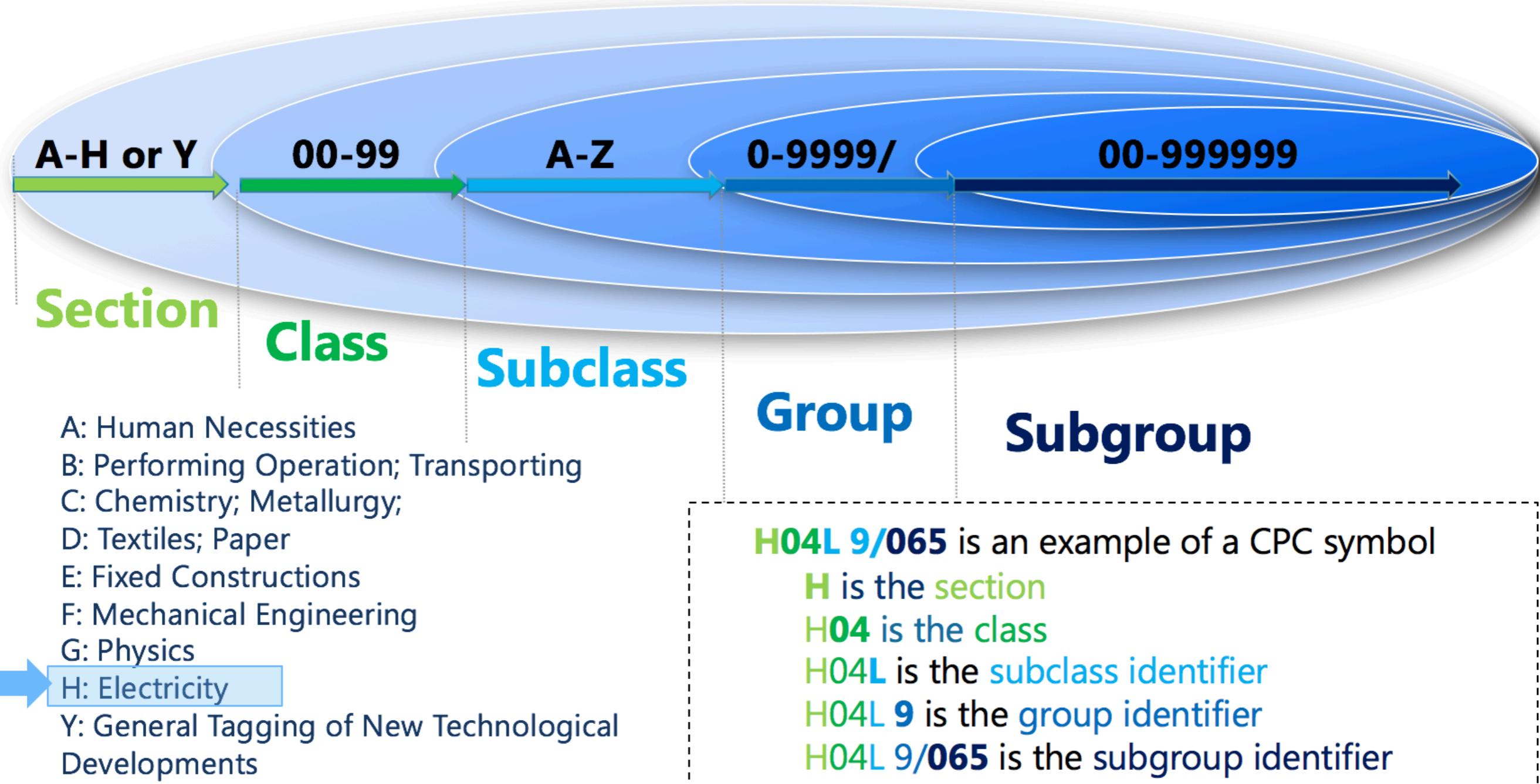




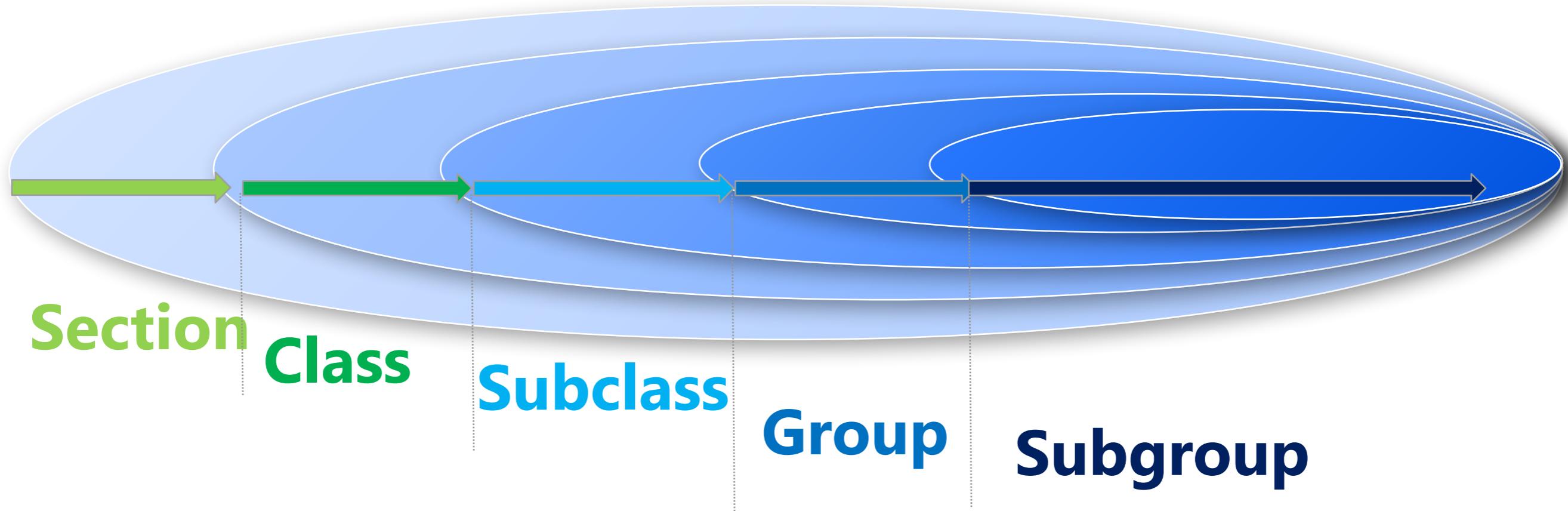




CPC Structure /Schema



CPC Structure /Schema



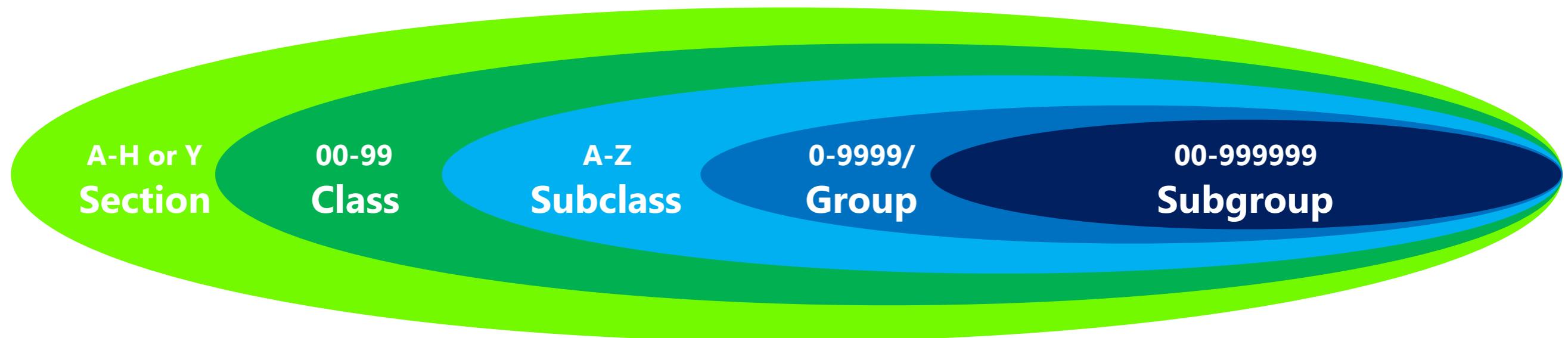
Shadows! Gradients! Borders! Fills! Arrows!
Two sets of colors... why?!

CPC Structure /Schema



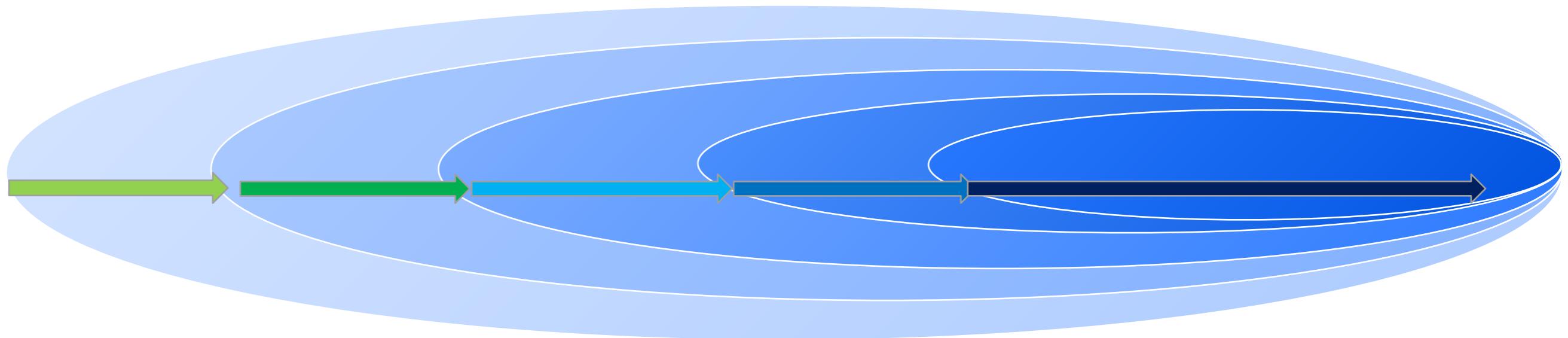
H04L 9/065

CPC Structure /Schema

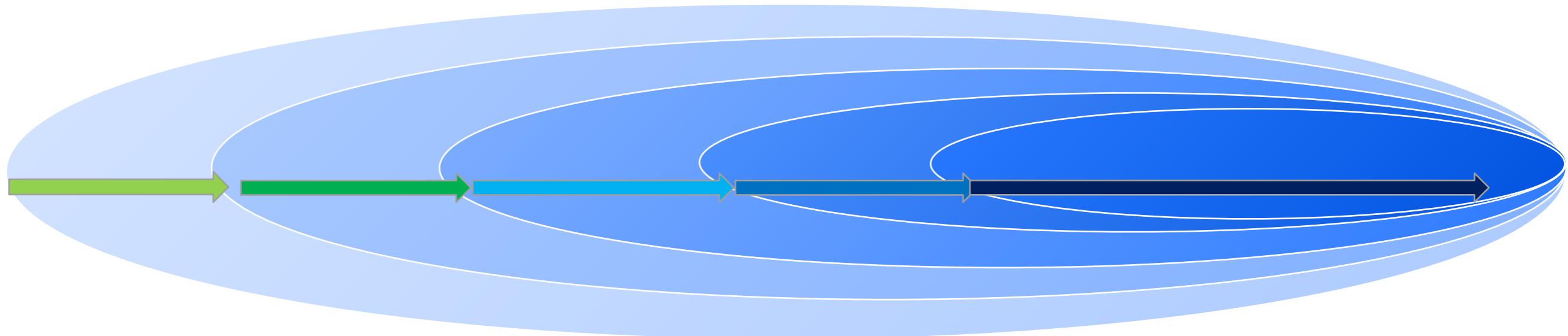


H04L 9/065

CPC Structure /Schema

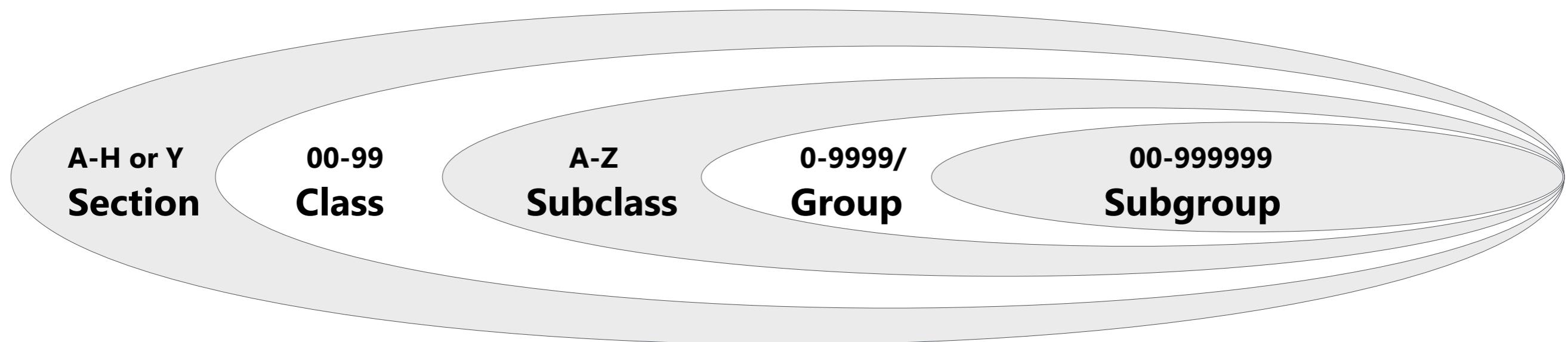


CPC Structure /Schema

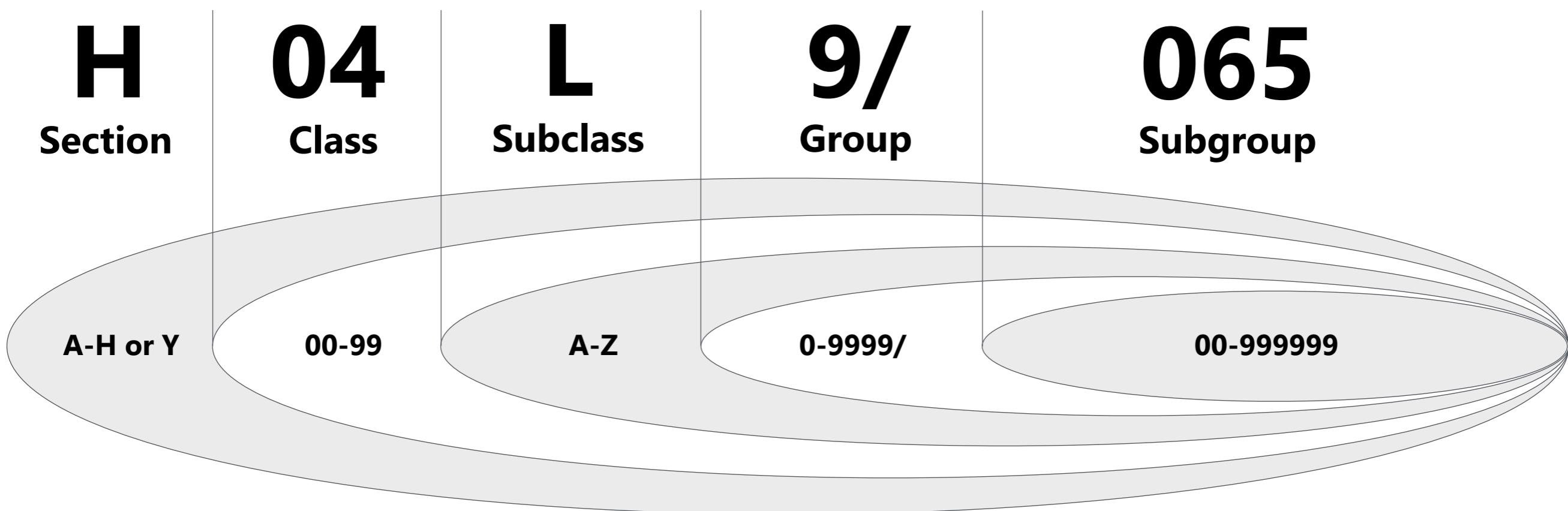


If all we need is clear separation...
Can we do it without the color?

CPC Structure /Schema



CPC Structure /Schema



A: Human Necessities

B: Performing Operation; Transporting

C: Chemistry; Metallurgy;

D: Textiles; Paper

E: Fixed Constructions

F: Mechanical Engineering

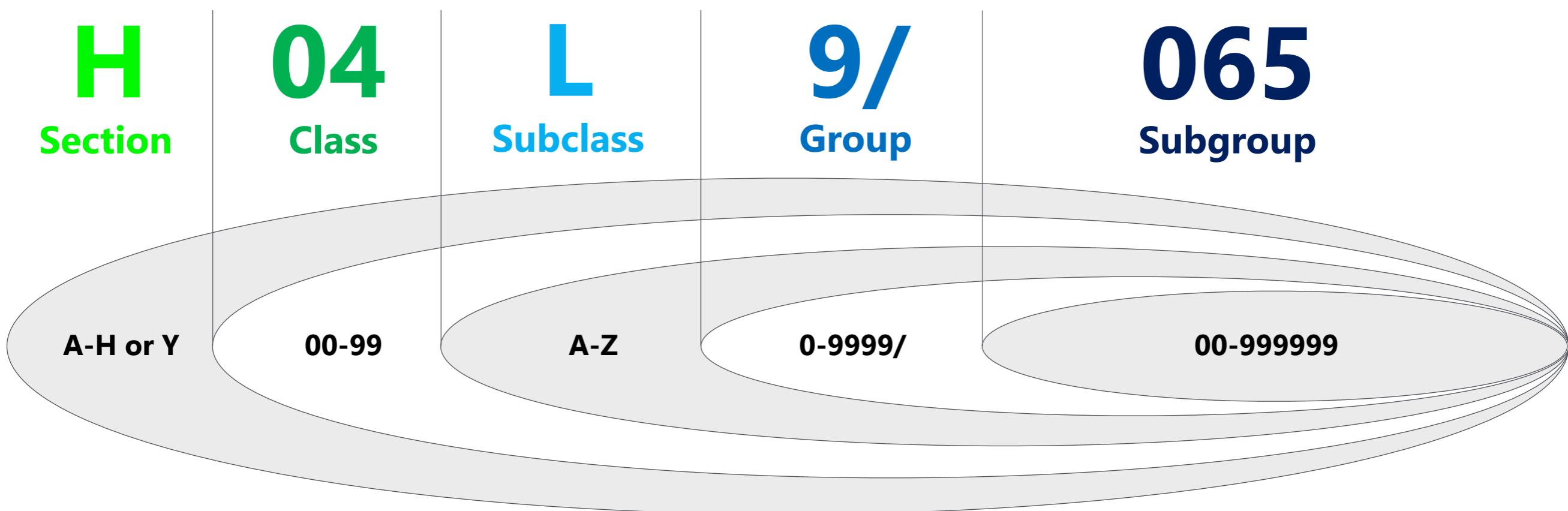
G: Physics

H: Electricity

Y: General Tagging of New Technological Developments

H04L 9/065 is an example of a CPC symbol

CPC Structure /Schema



A: Human Necessities

B: Performing Operation; Transporting

C: Chemistry; Metallurgy;

D: Textiles; Paper

E: Fixed Constructions

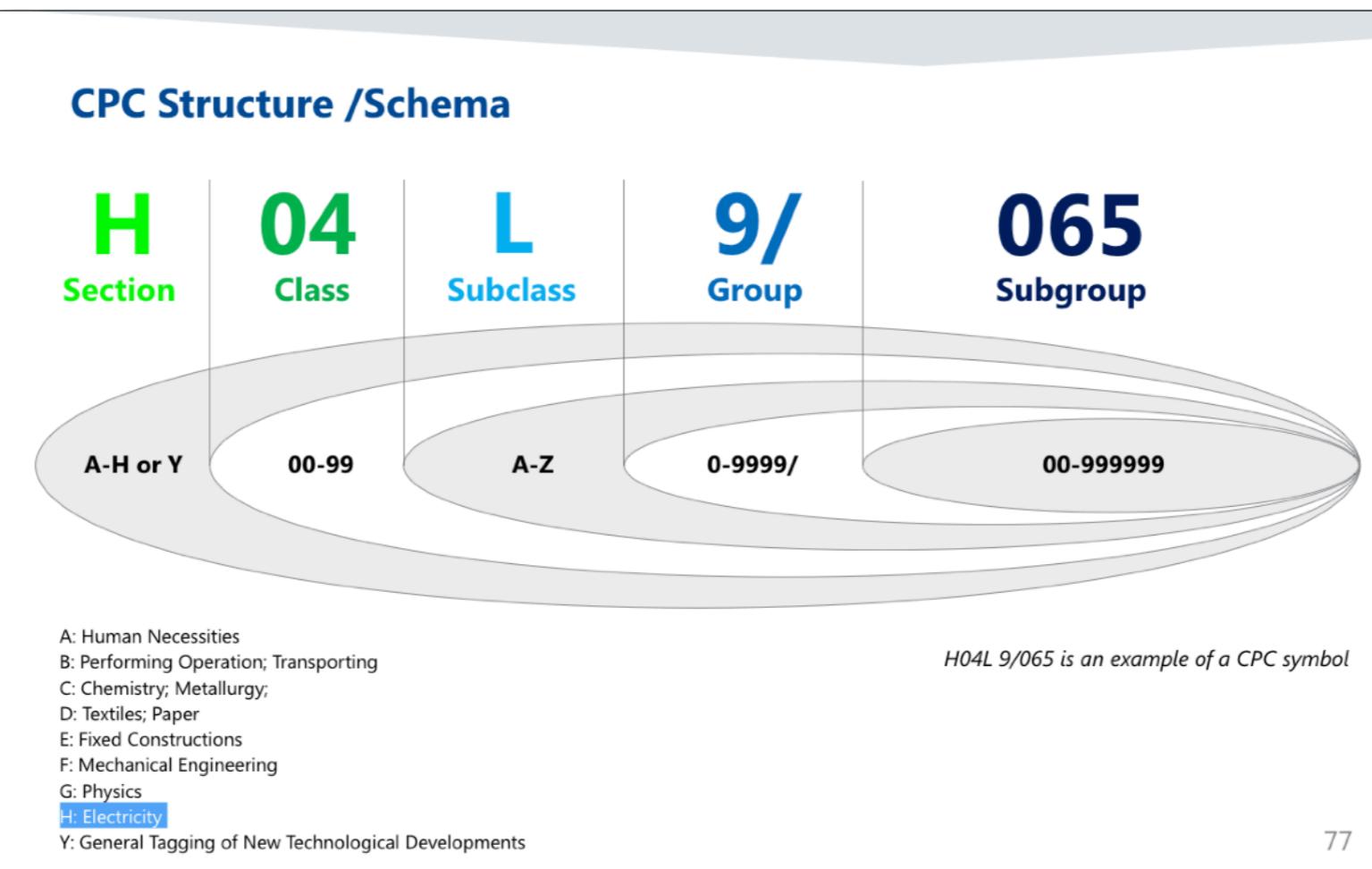
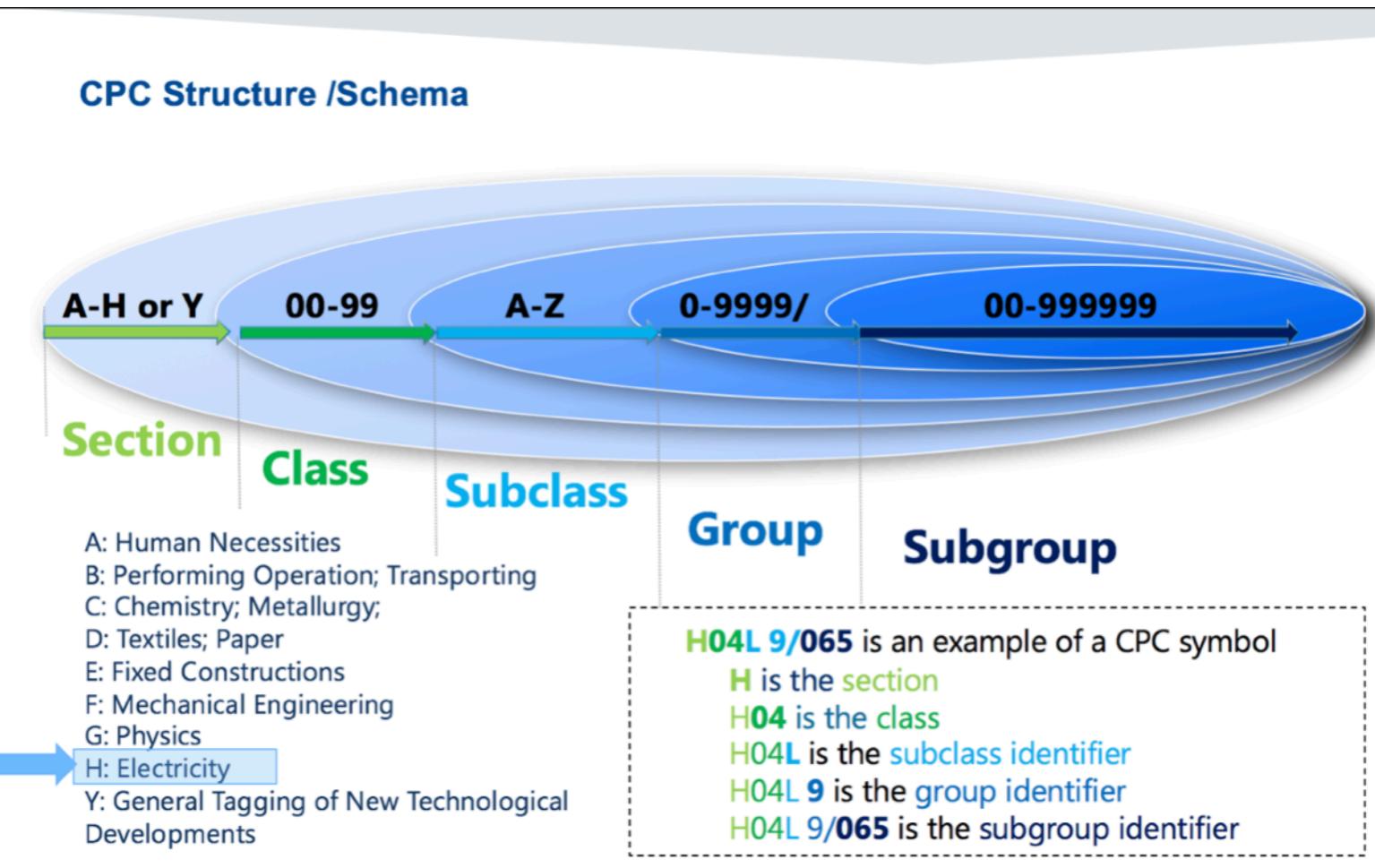
F: Mechanical Engineering

G: Physics

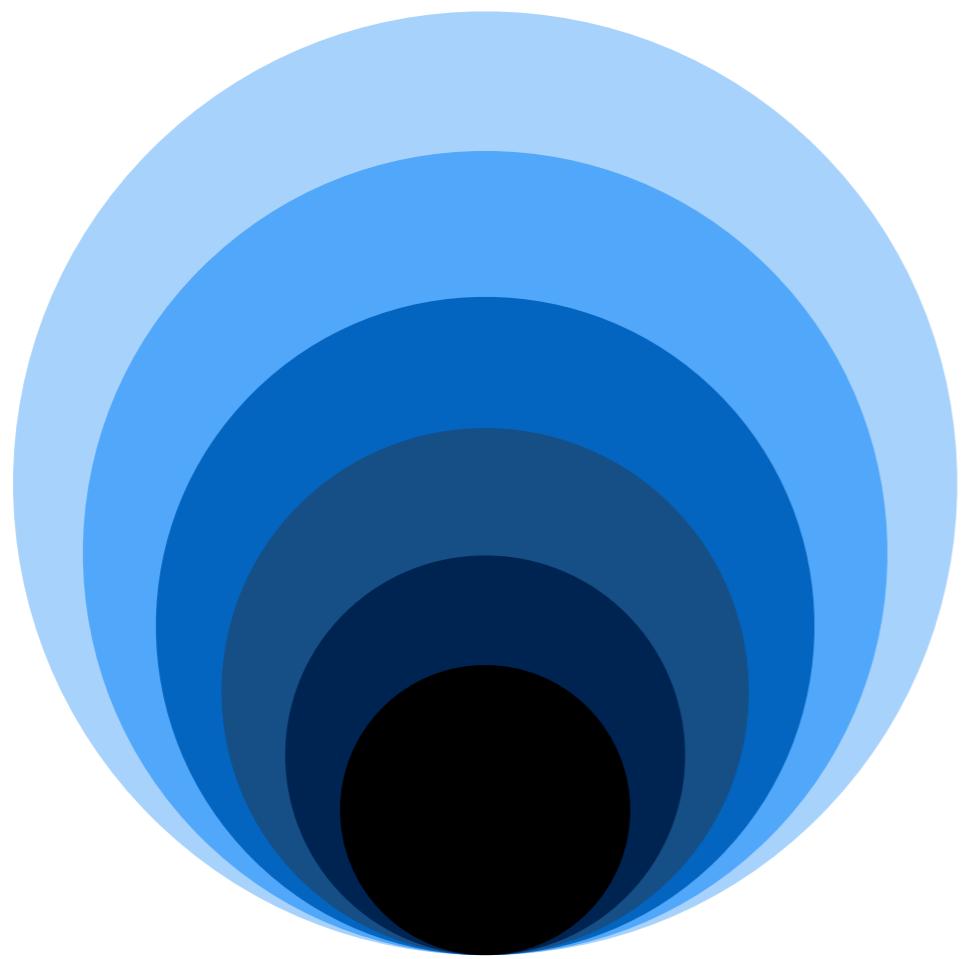
H: Electricity

Y: General Tagging of New Technological Developments

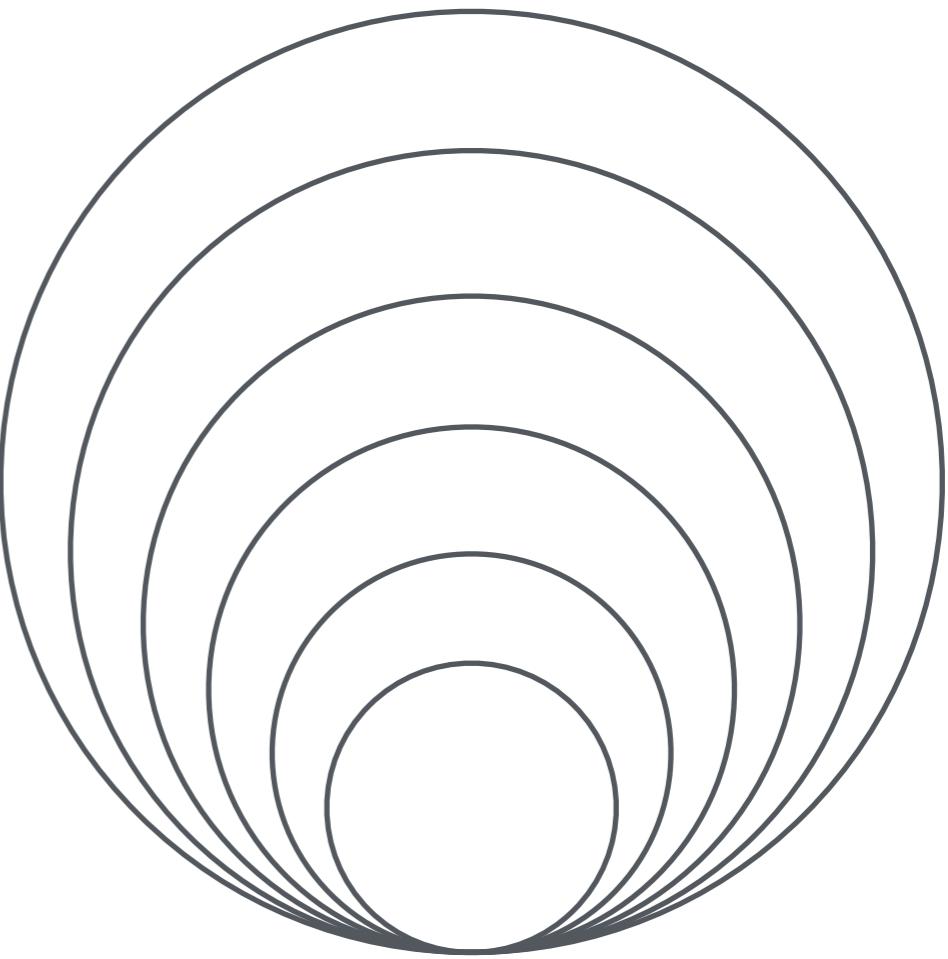
H04L 9/065 is an example of a CPC symbol



1



2

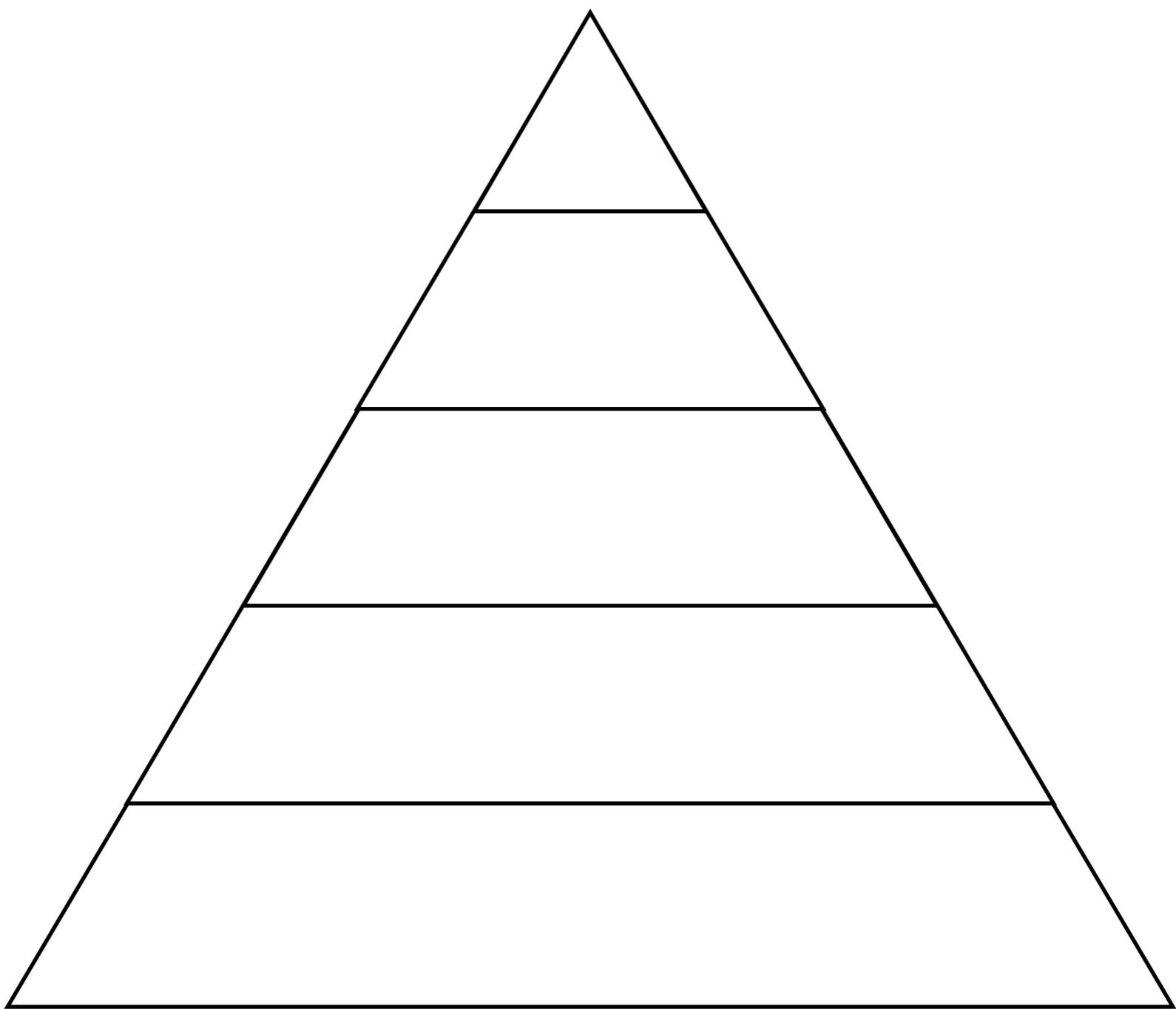


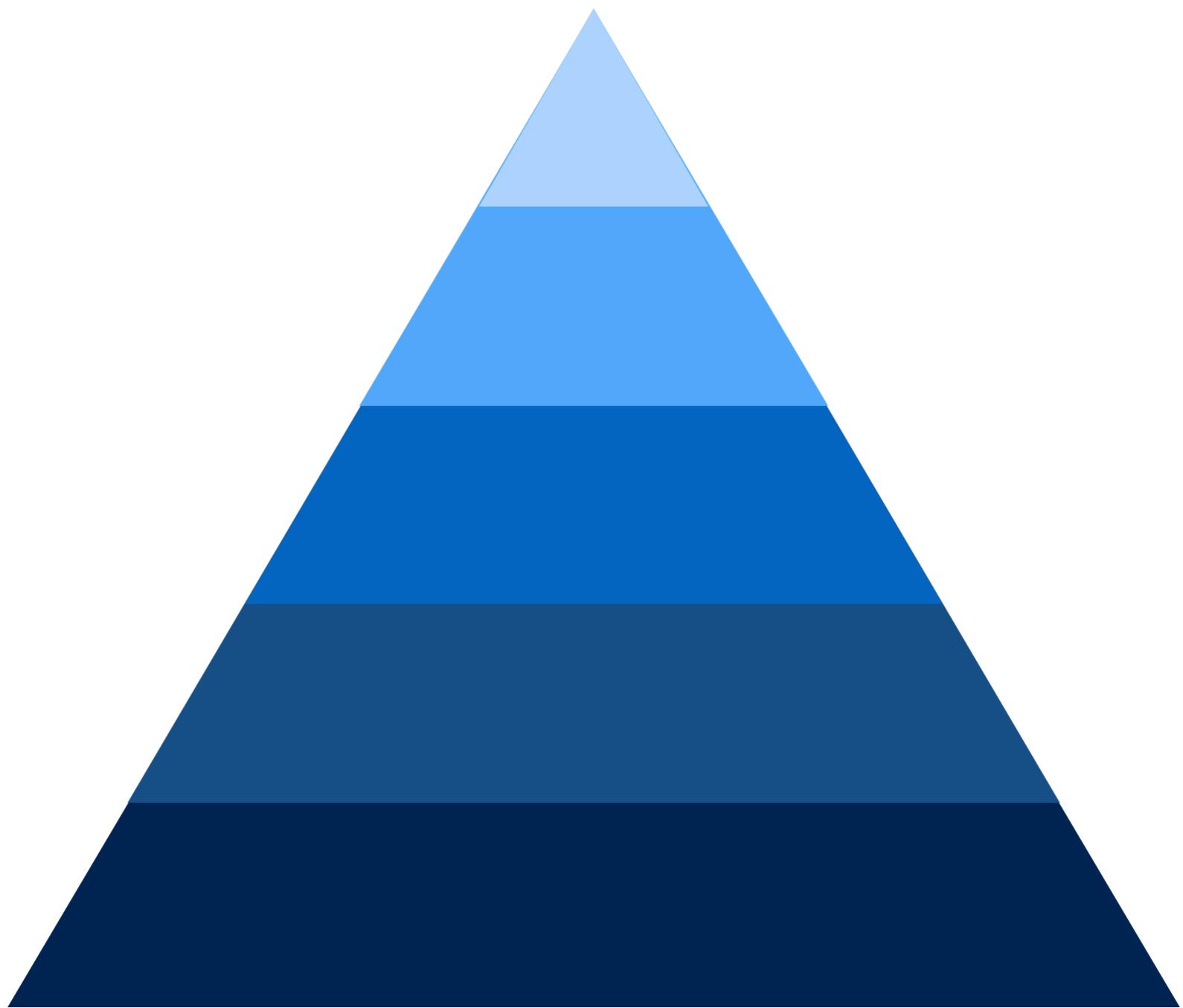
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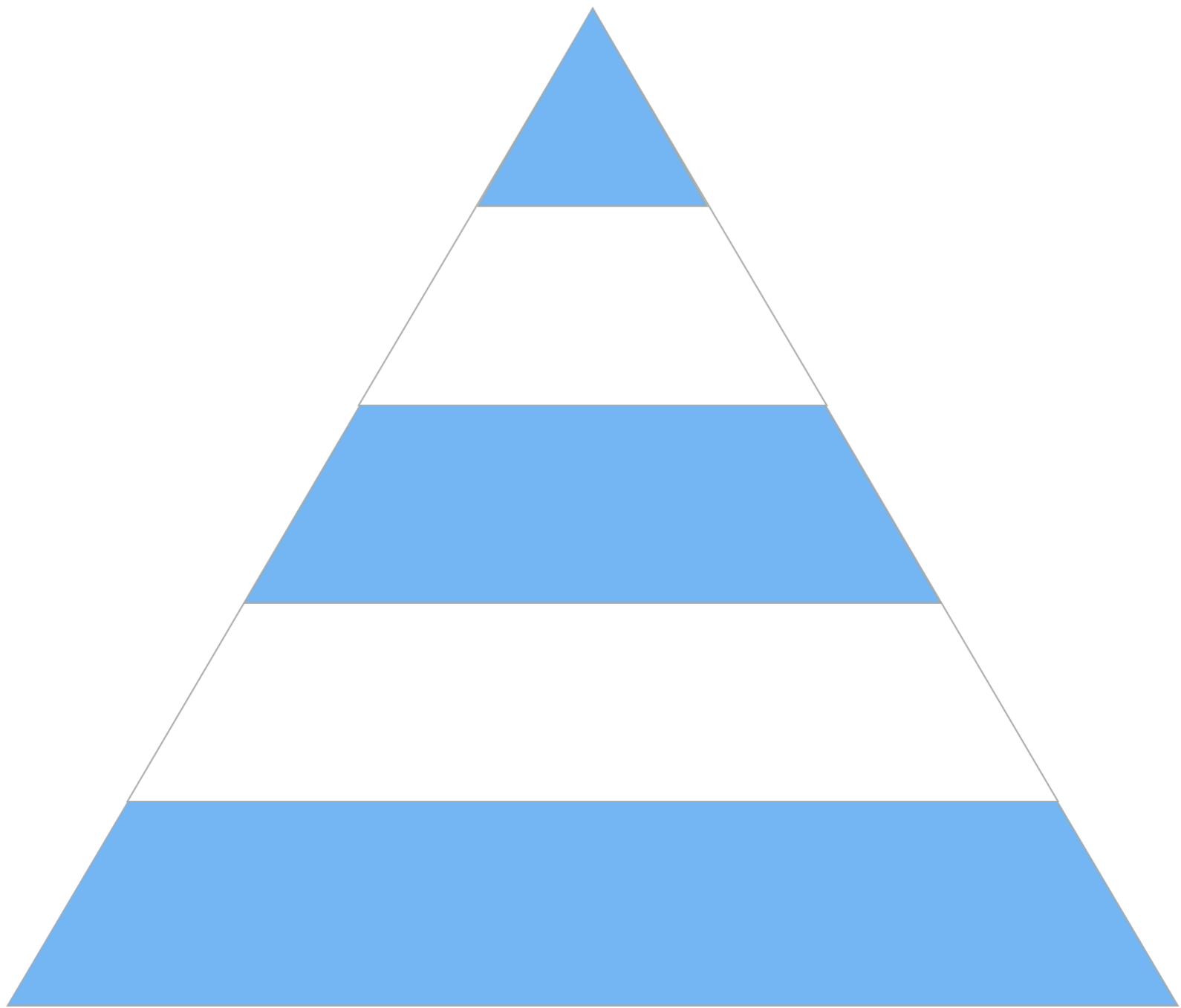


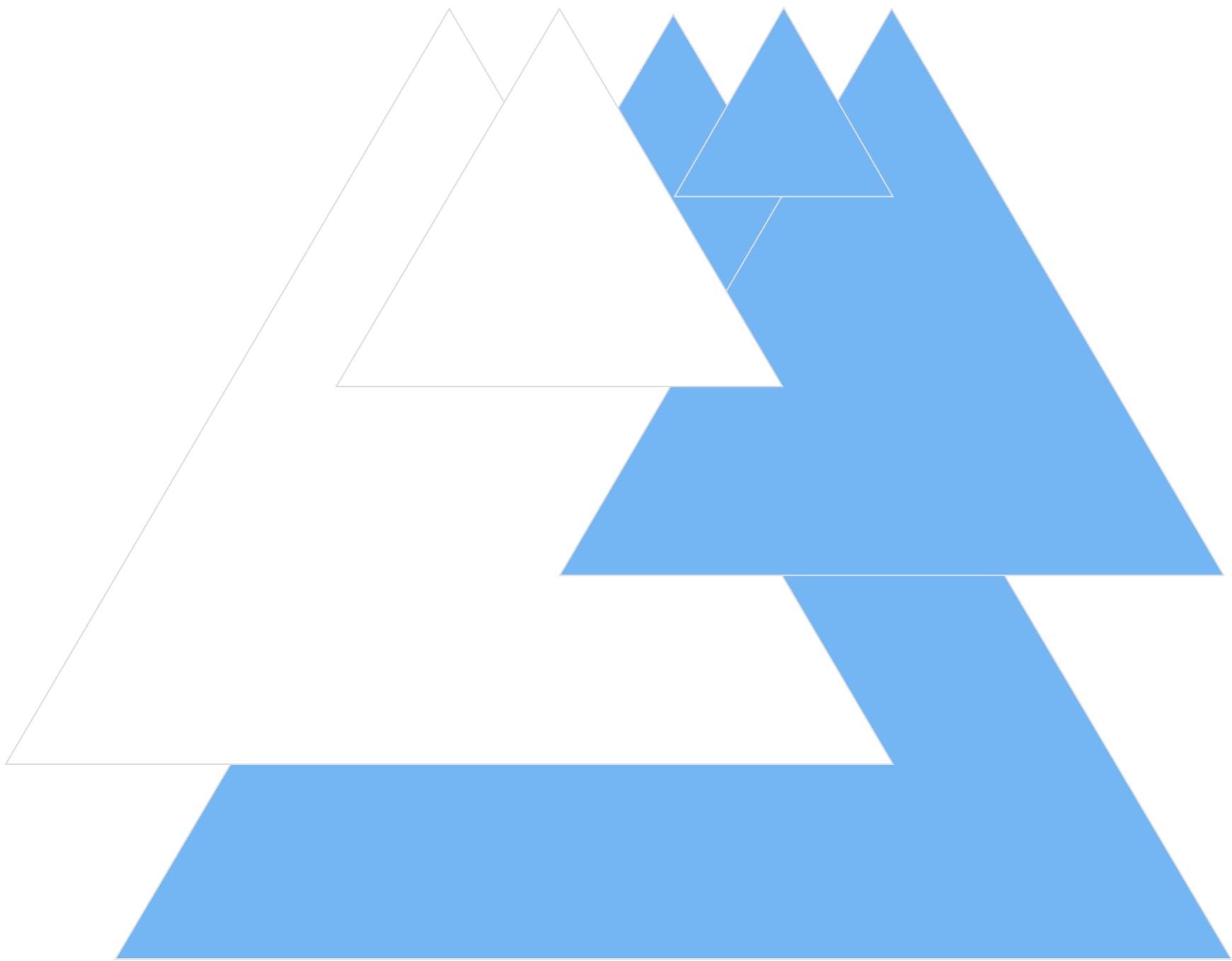
4











Creating diagrams

Creating diagrams

1. Why do we need the diagram? Can we do without it?

Creating diagrams

1. Why do we need the diagram? Can we do without it?
2. What's the key message? What's the decision?

Creating diagrams

1. Why do we need the diagram? Can we do without it?
2. What's the key message? What's the decision?
3. Create 3-5 focal points for the eye to travel

Creating diagrams

1. Why do we need the diagram? Can we do without it?
2. What's the key message? What's the decision?
3. Create 3-5 focal points for the eye to travel
4. Remove or move to the background everything else
 - *Do we need that much color?*
 - *Can we dim the connecting lines?*
 - *Do we need fills and borders?*

Data visualisation

- 1. Key principles*
- 2. Templates: fonts, colors, backgrounds*
- 3. Typography*
- 4. Illustrations: photos, drawings, icons*
- 5. Chart-like diagrams*
- 6. Data visualisation*



The top four responses on what annoys people about financial presentations

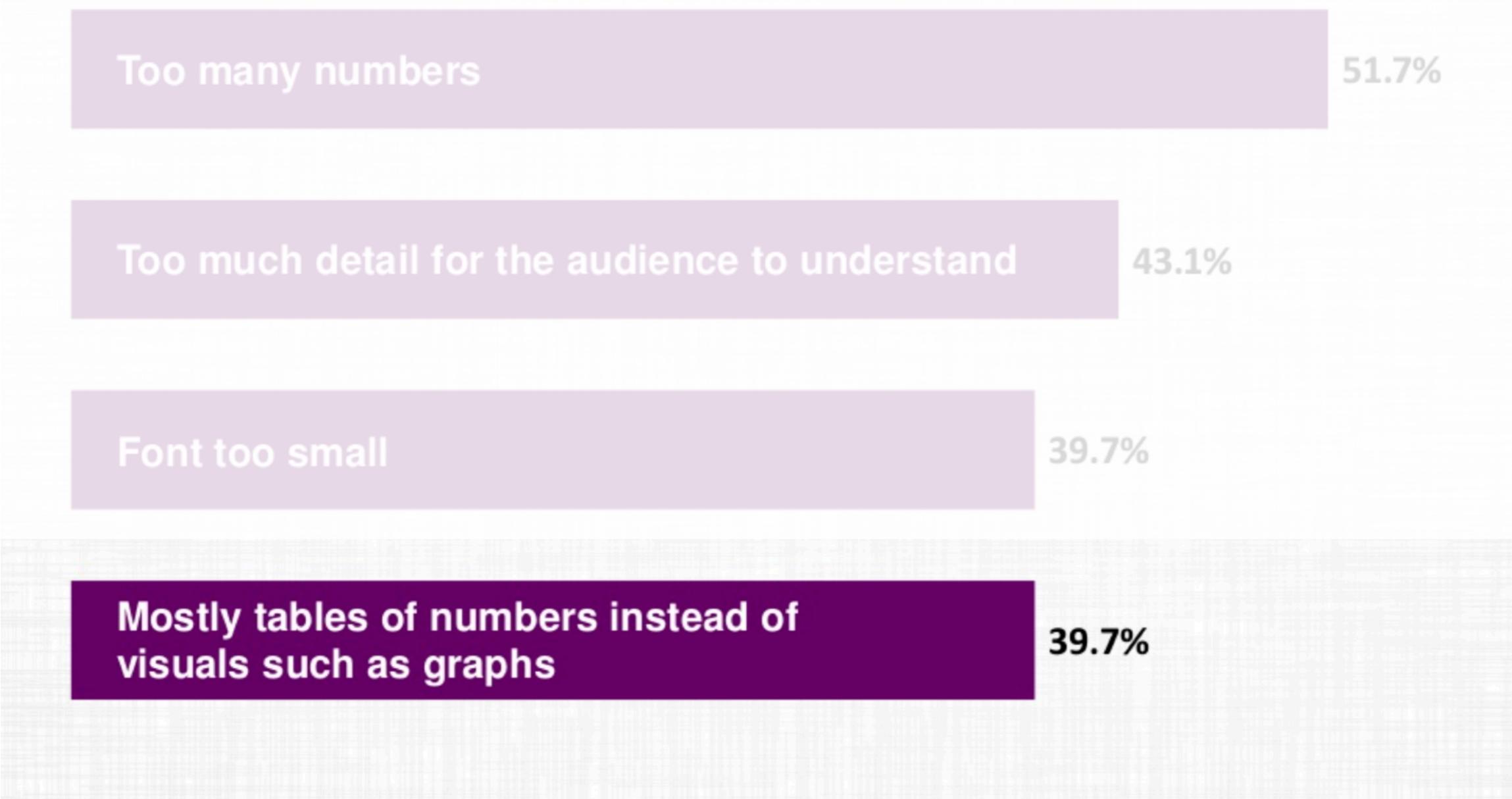
Too many numbers 51.7%

Too much detail for the audience to understand 43.1%

Font too small 39.7%

Mostly tables of numbers instead of visuals such as graphs 39.7%

The top four responses on what annoys people about financial presentations



TABLE



GRAPH

FY 2017 SC Contributions to DOE Crosscuts

	Adv Mat	ECI	Sub-surface	EWN	Cyber-security	Total
Advanced Scientific Computing Res.	0	154,000	0	0	0	154,000
Basic Energy Sciences	17,600	26,000	41,300	0	0	84,900
Biological and Environmental Research	0	10,000	0	24,300	0	34,300
Safeguards and Security	0	0	0	0	27,197	27,197
Total, SC Contribution Crosscuts	17,600	190,000	41,300	24,300	27,197	300,397

Adv Mat:

Advanced Materials Crosscut

ECI:

Exascale Computing Initiative Crosscut

Subsurface:

Subsurface Technology and Engineering RD&D Crosscut

EWN:

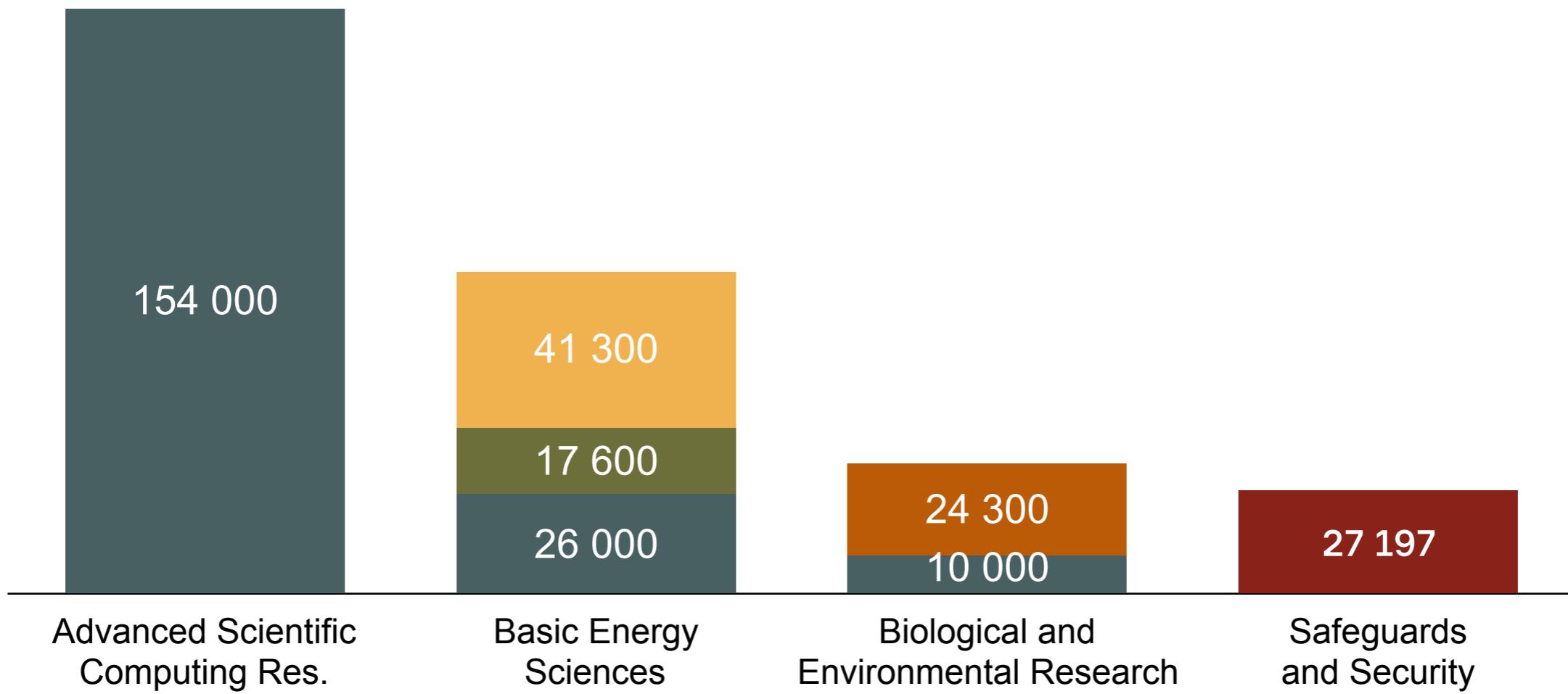
Energy-Water Nexus Crosscut

Cybersecurity:

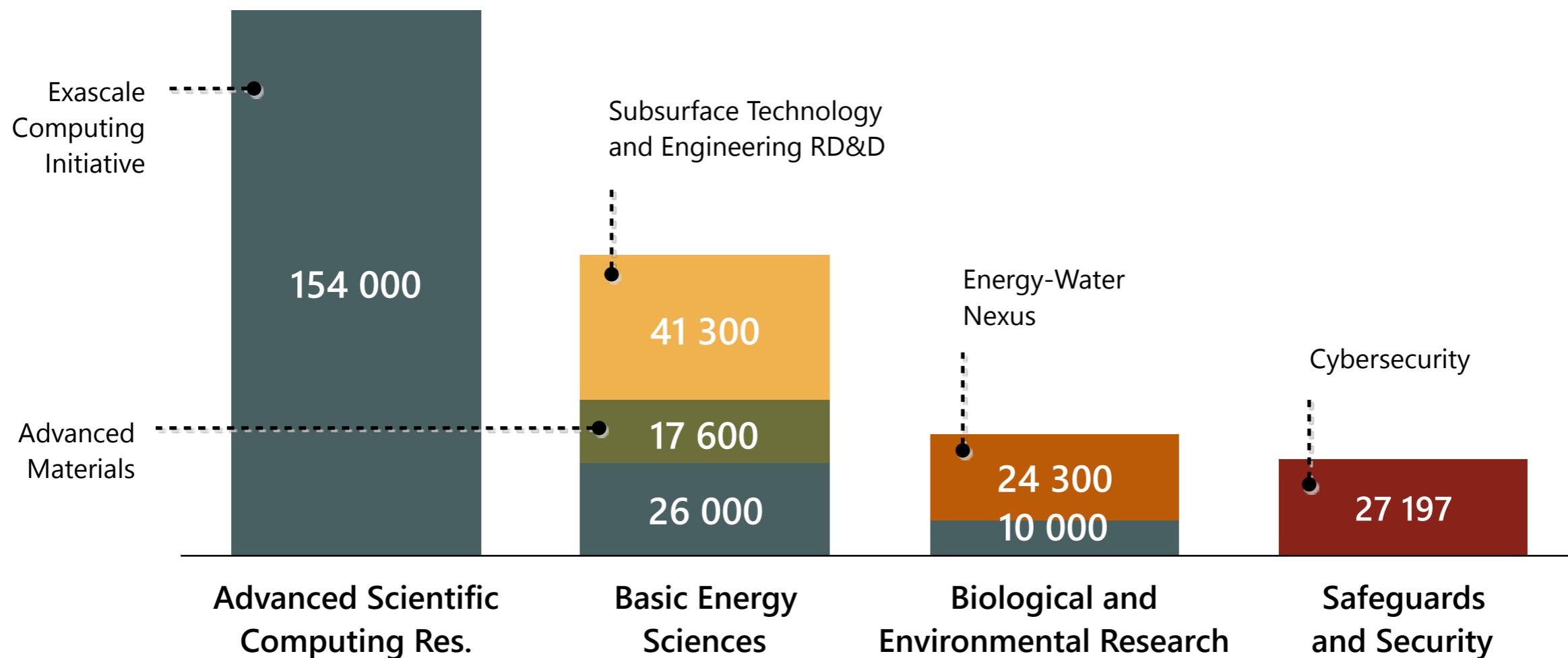
Cybersecurity Crosscut

FY 2017 SC Contributions to DOE Crosscuts

- Cybersecurity
- Energy-Water Nexus
- Subsurface Technology and Engineering RD&D
- Advanced Materials
- Exascale Computing Initiative



FY 2017 SC Contributions to DOE Crosscuts



DESIGN

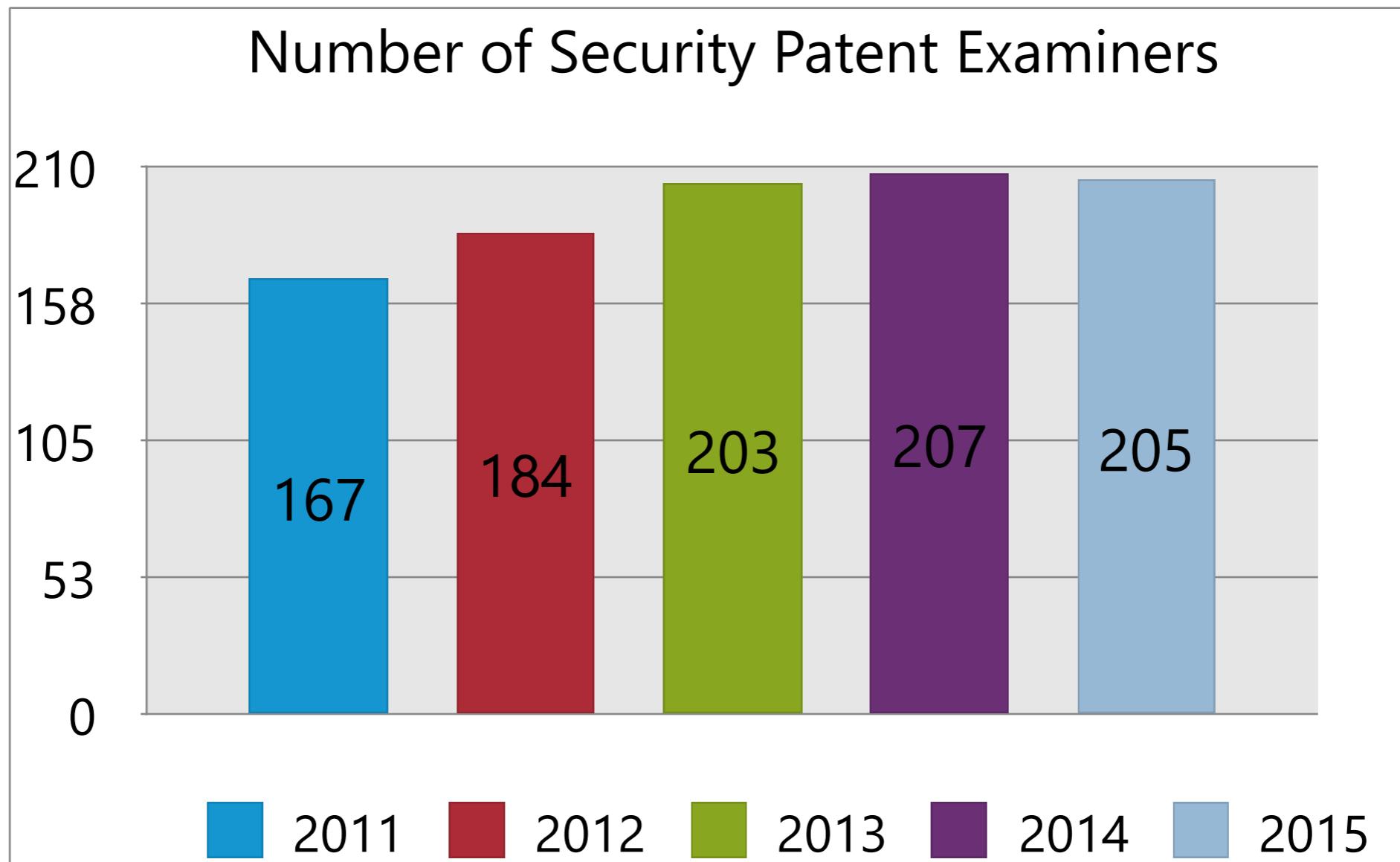
is mostly about

FIGHTING

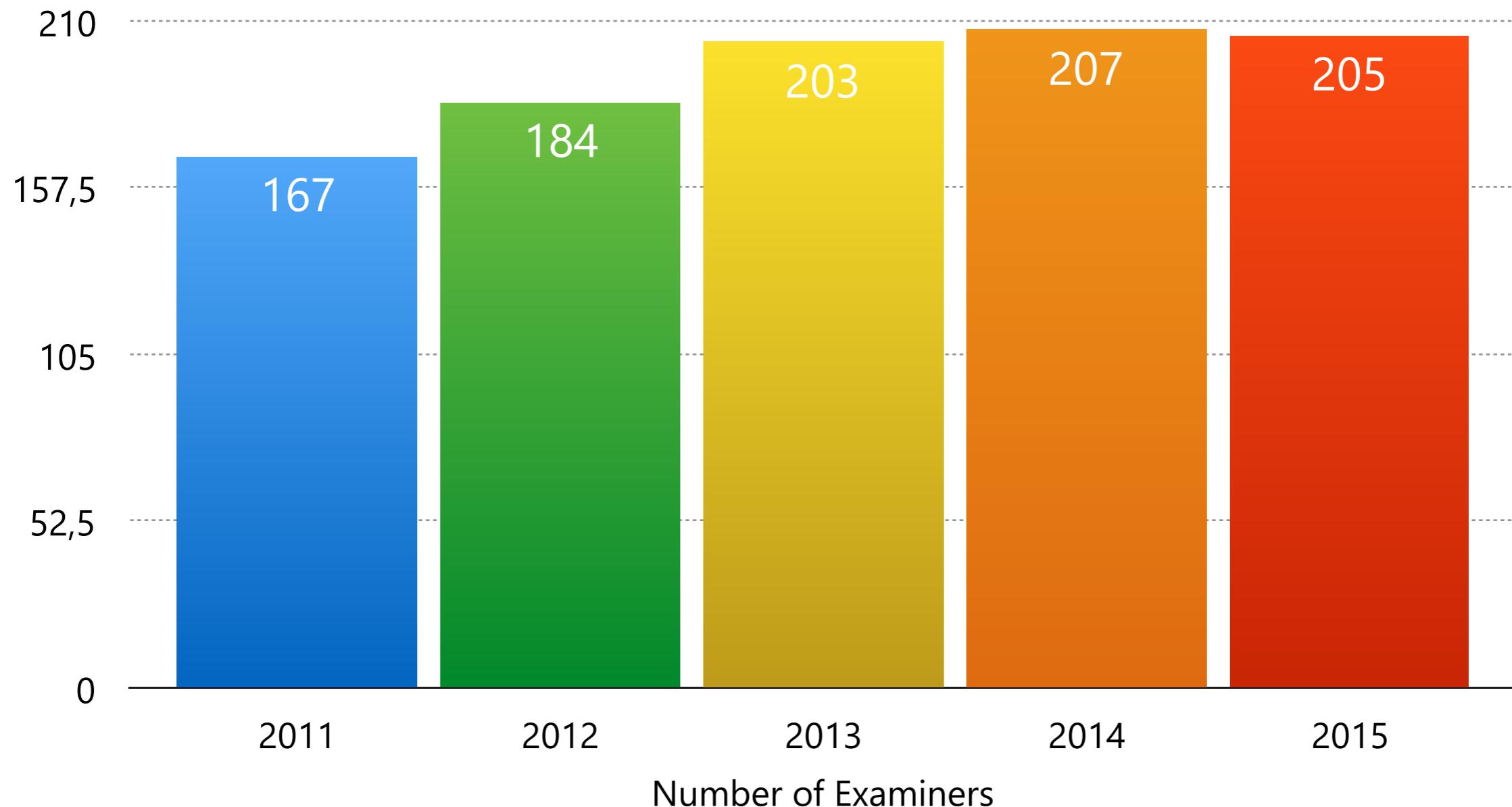
- against the -

DEFAULTS

Our Workforce - Information Security and Cryptography Patent Examiners

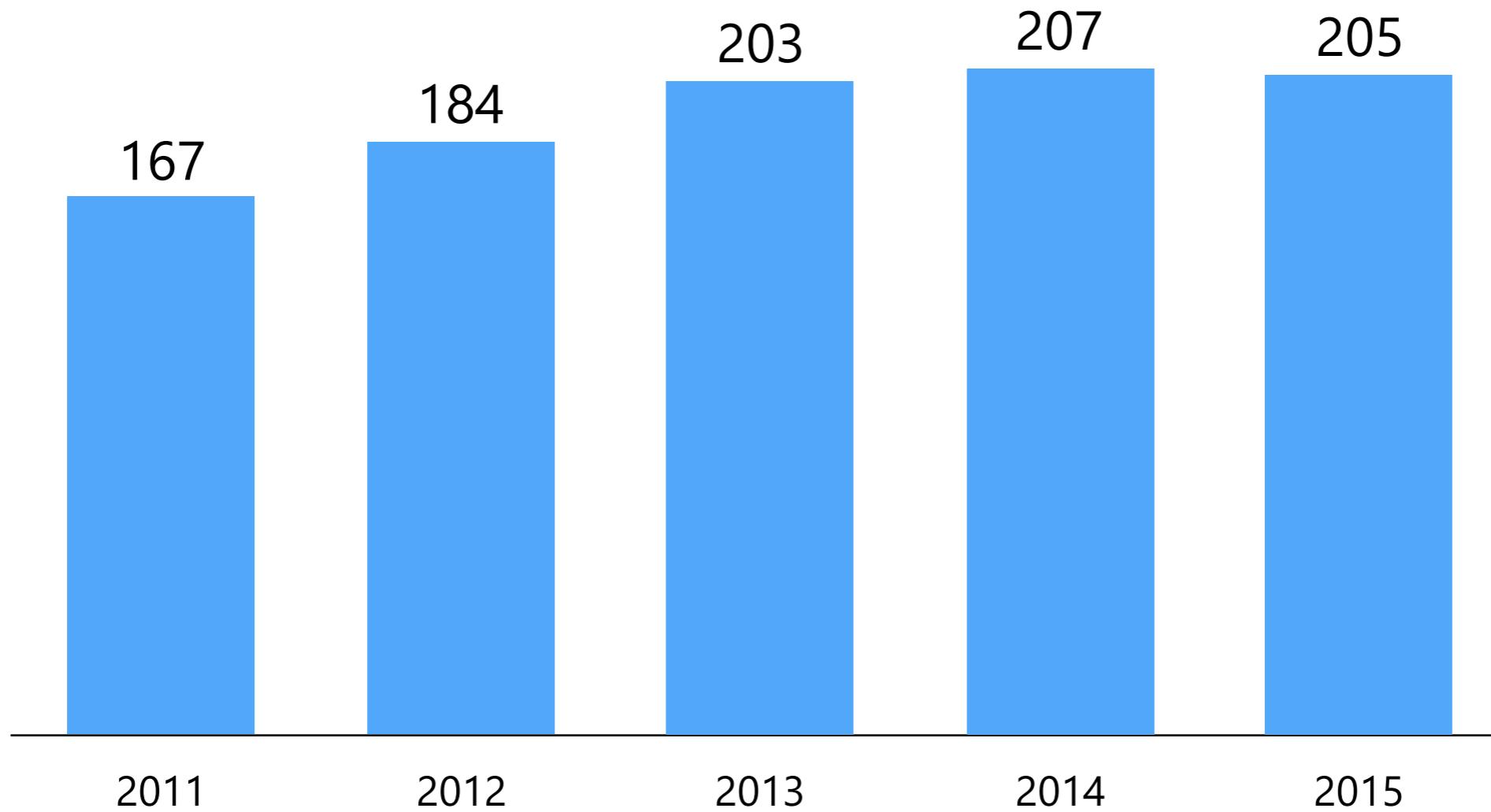


Our Workforce - Information Security and Cryptography Patent Examiners



Our Workforce

Information Security and Cryptography Patent Examiners



What
CHART
should I use?

Slide Show

Review

View



Shapes SmartArt

12 11 10

Column

Line

Pie

Bar

Area

X Y (Scatter)

Stock

Surface

Radar

ment

Text
Box

Header &
Footer

WordArt

Date &
Time

2 1 0 1 2 3 4 5

Save as Template...

Manage Templates...

Slide Show

Review

View



Shapes SmartArt

12 11 10

Column

Line

Pie

Bar

Area

X Y (Scatter)

Stock

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Radar

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WordArt

Date &
Time

2 1 0 1 2 3 4 5

Save as Template...

Manage Templates...

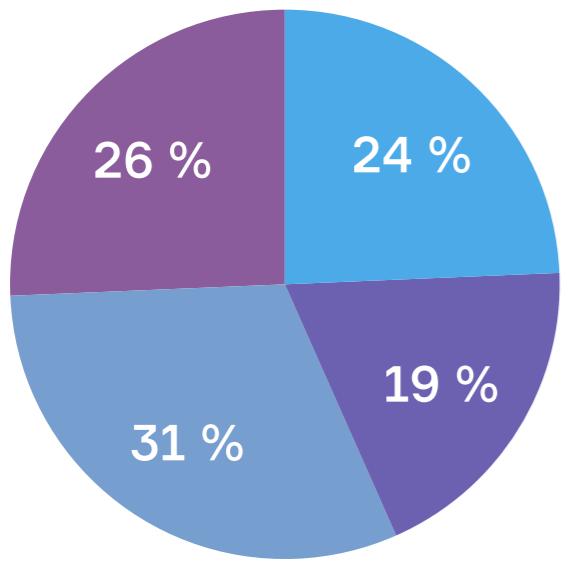
The screenshot shows the Microsoft Word ribbon with the "Insert" tab selected. The "Text" section of the ribbon includes icons for Shapes, SmartArt, Text Box, Header & Footer, WordArt, and Date & Time. A red box highlights the "Text Box" icon. Below the ribbon, a ruler shows measurements from 12 to 5. A context menu is open, listing various chart types: Column, Line, Pie, Bar, Area, X Y (Scatter), Stock, Surface, and Radar. The "Bar" option is also highlighted with a red box. To the right of the menu, a red box contains the text "95% of all the data viz".

- Column ►
- Line ►
- Pie ►
- Bar ►
- Area ►
- X Y (Scatter) ►
- Stock ►
- Surface ►
- Radar ►

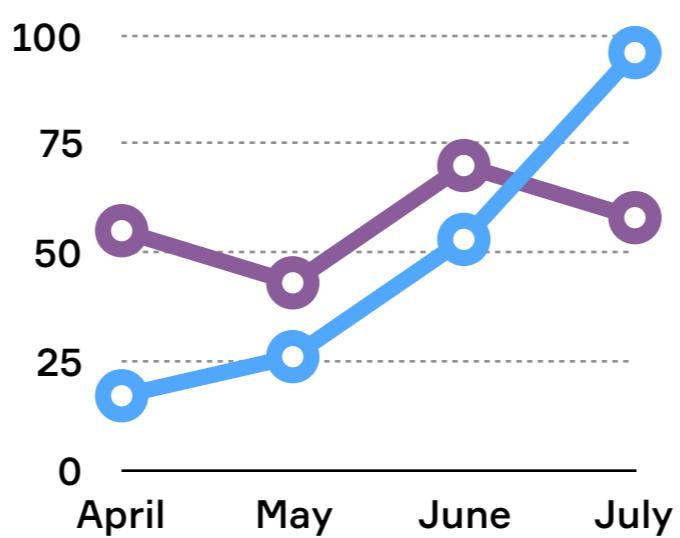
Save as Template...

Manage Templates...

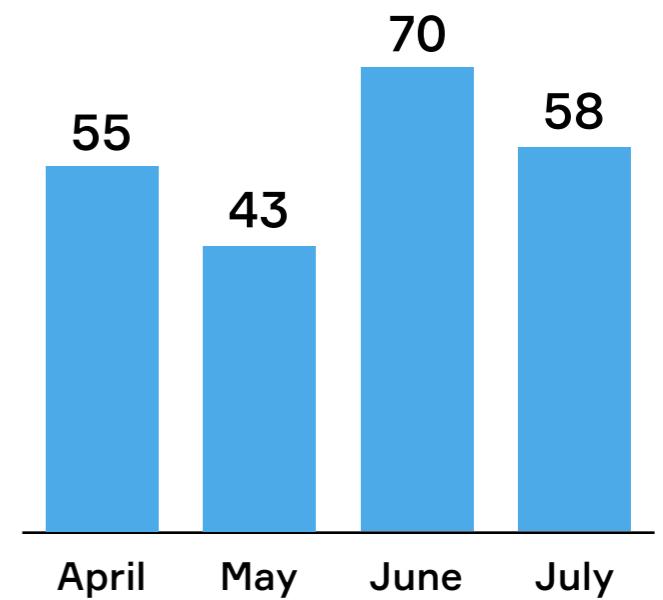
**95% of all
the data viz**



Distribution



Trend

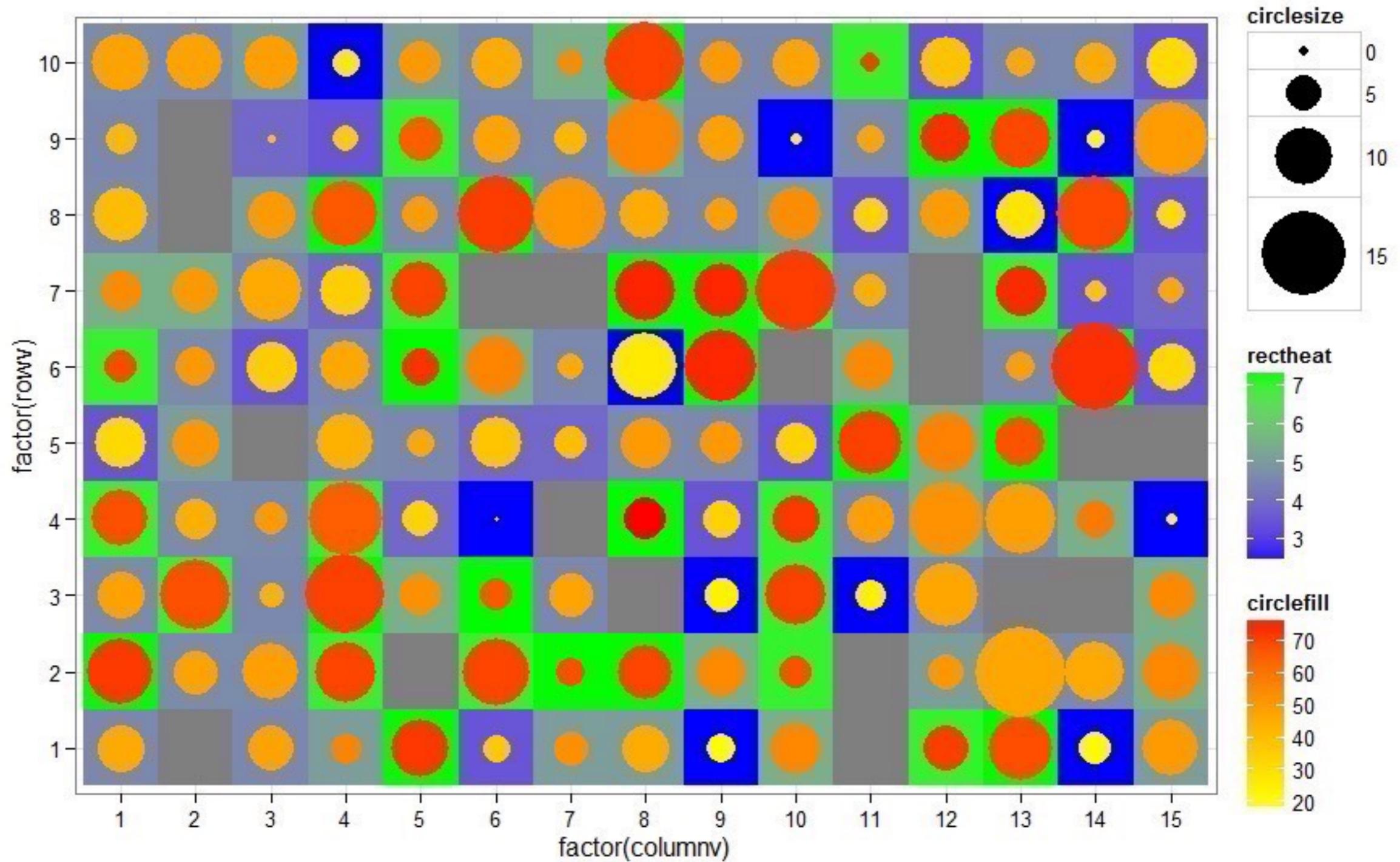


Your default

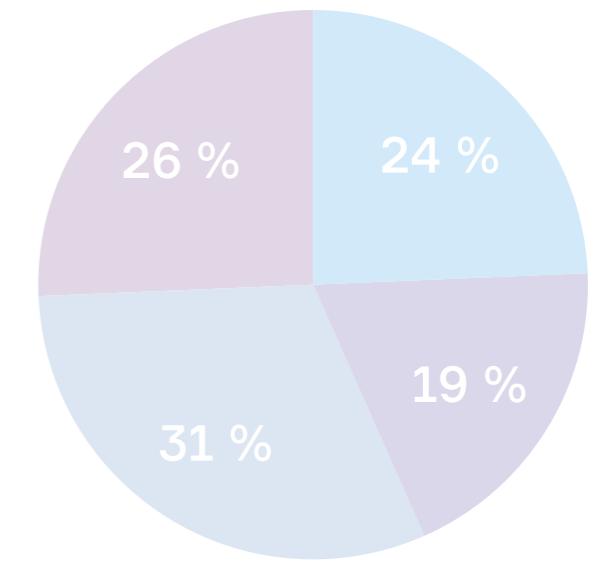
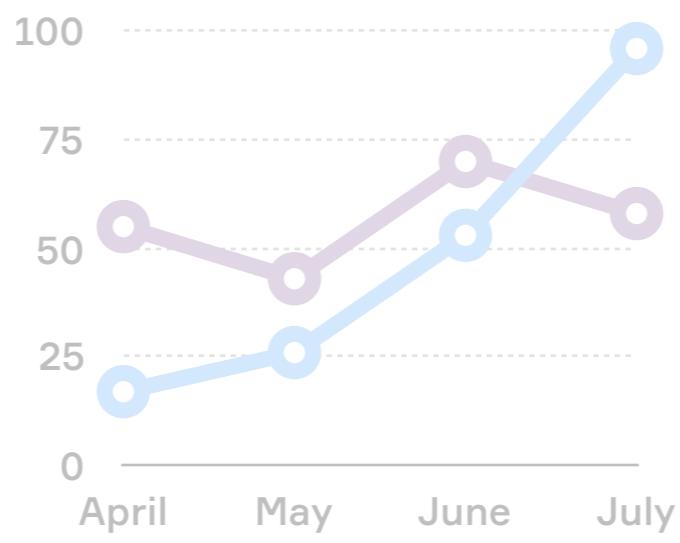
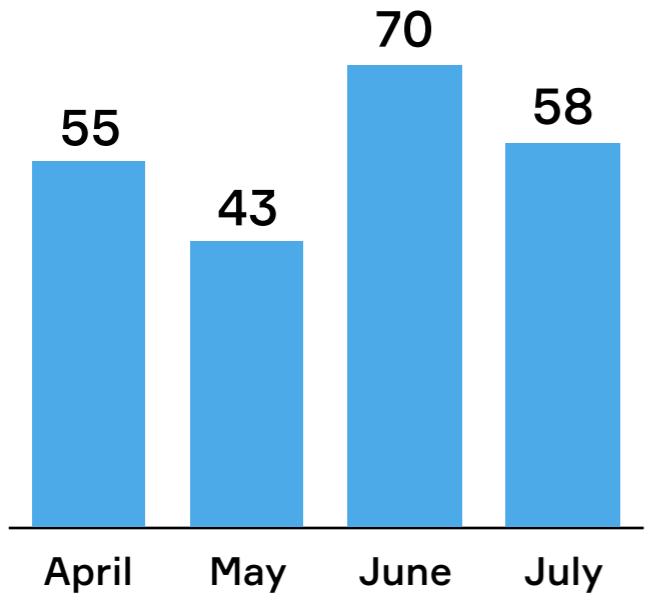
Think

THREE TIMES

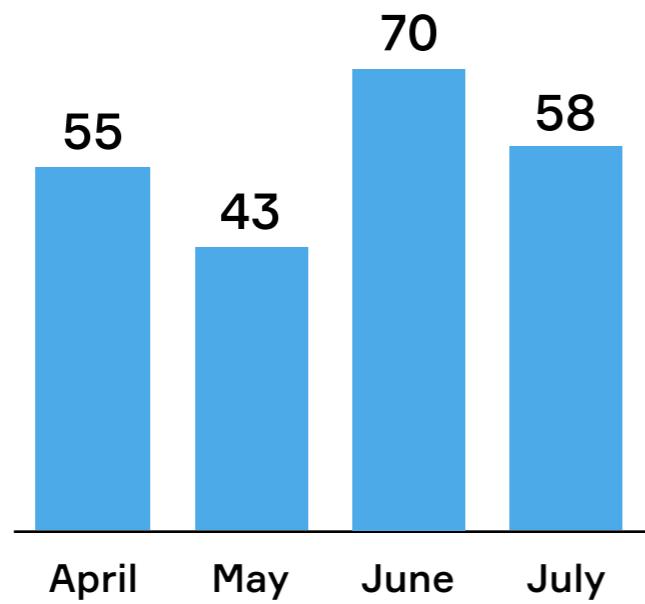
before using anything else



Column and bar charts

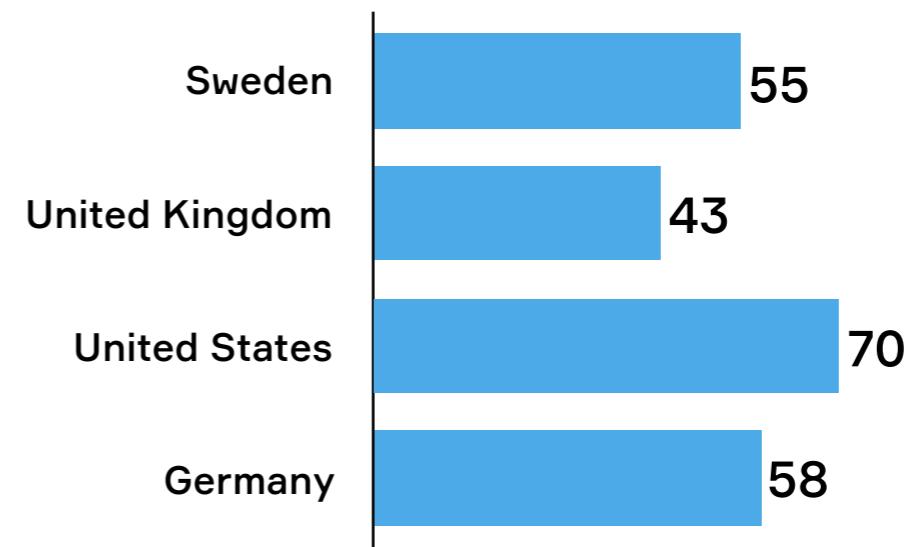


Column chart

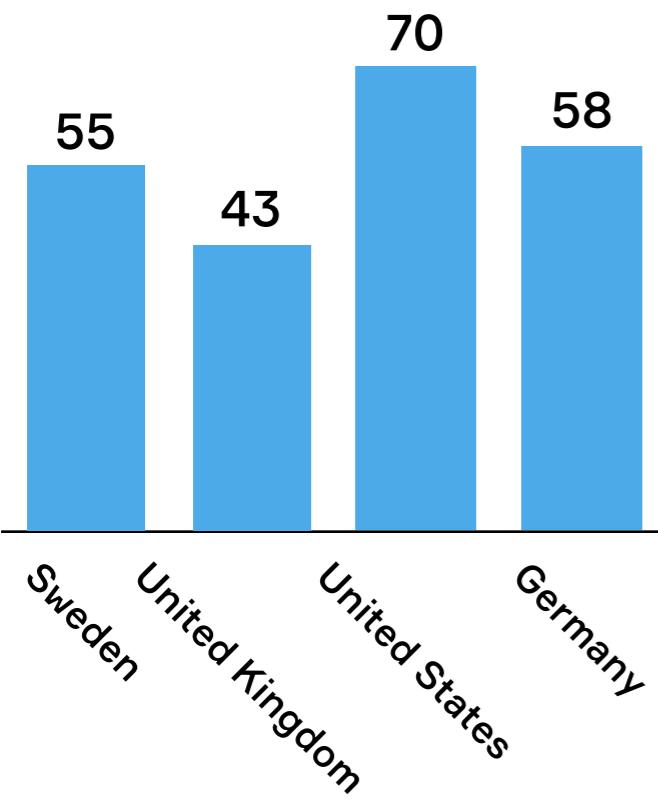


Time periods

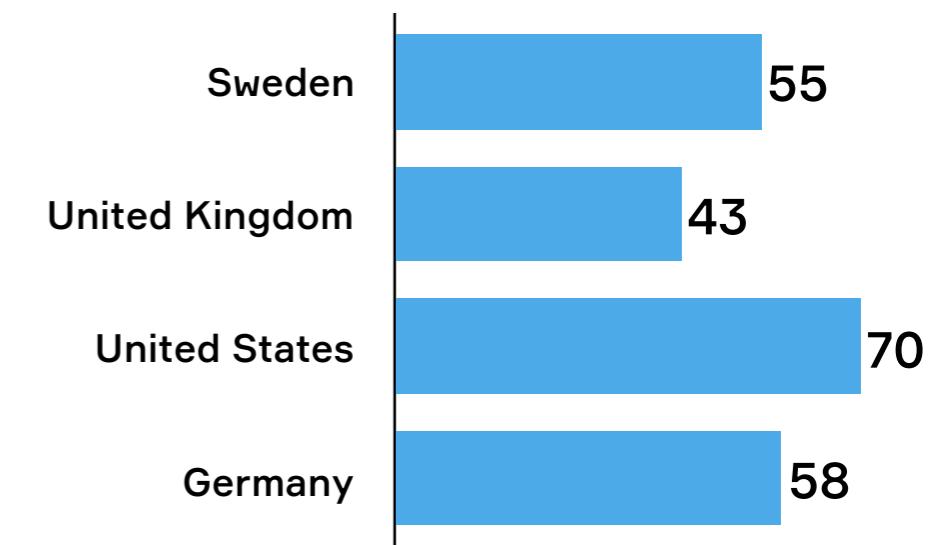
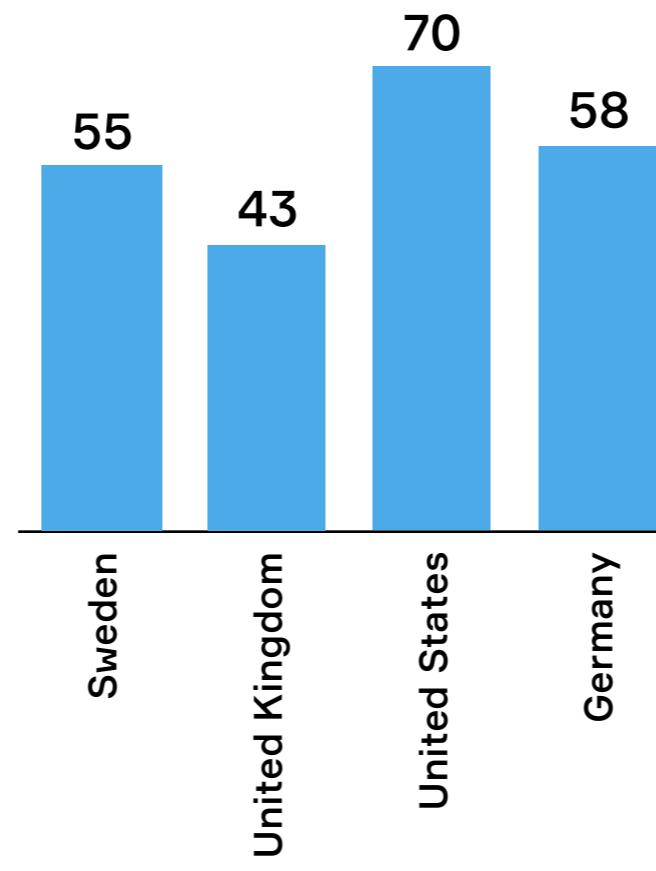
Bar chart



Long labels



This is not a good idea



That's ok

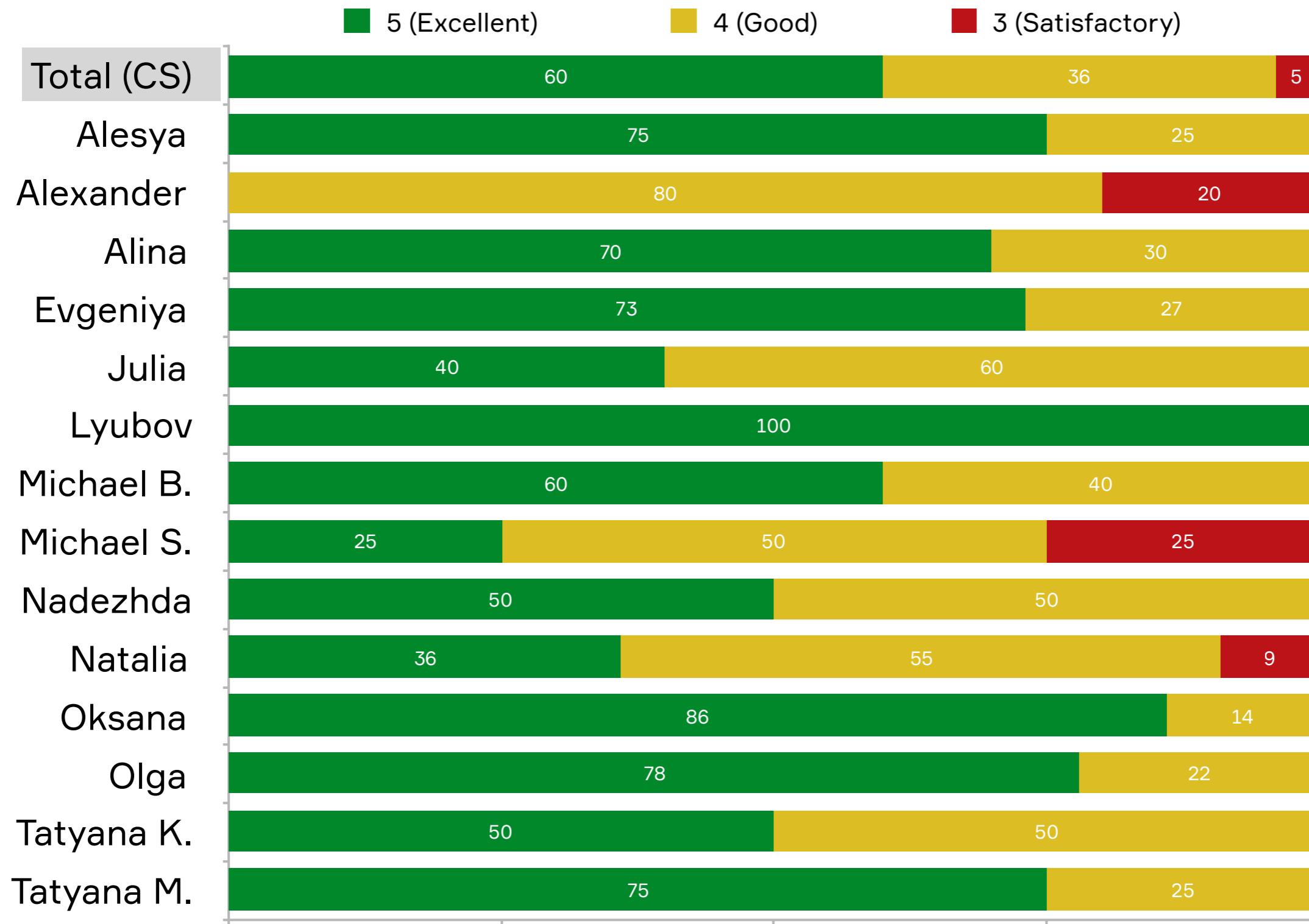
1

Sort and help
to make decisions

—

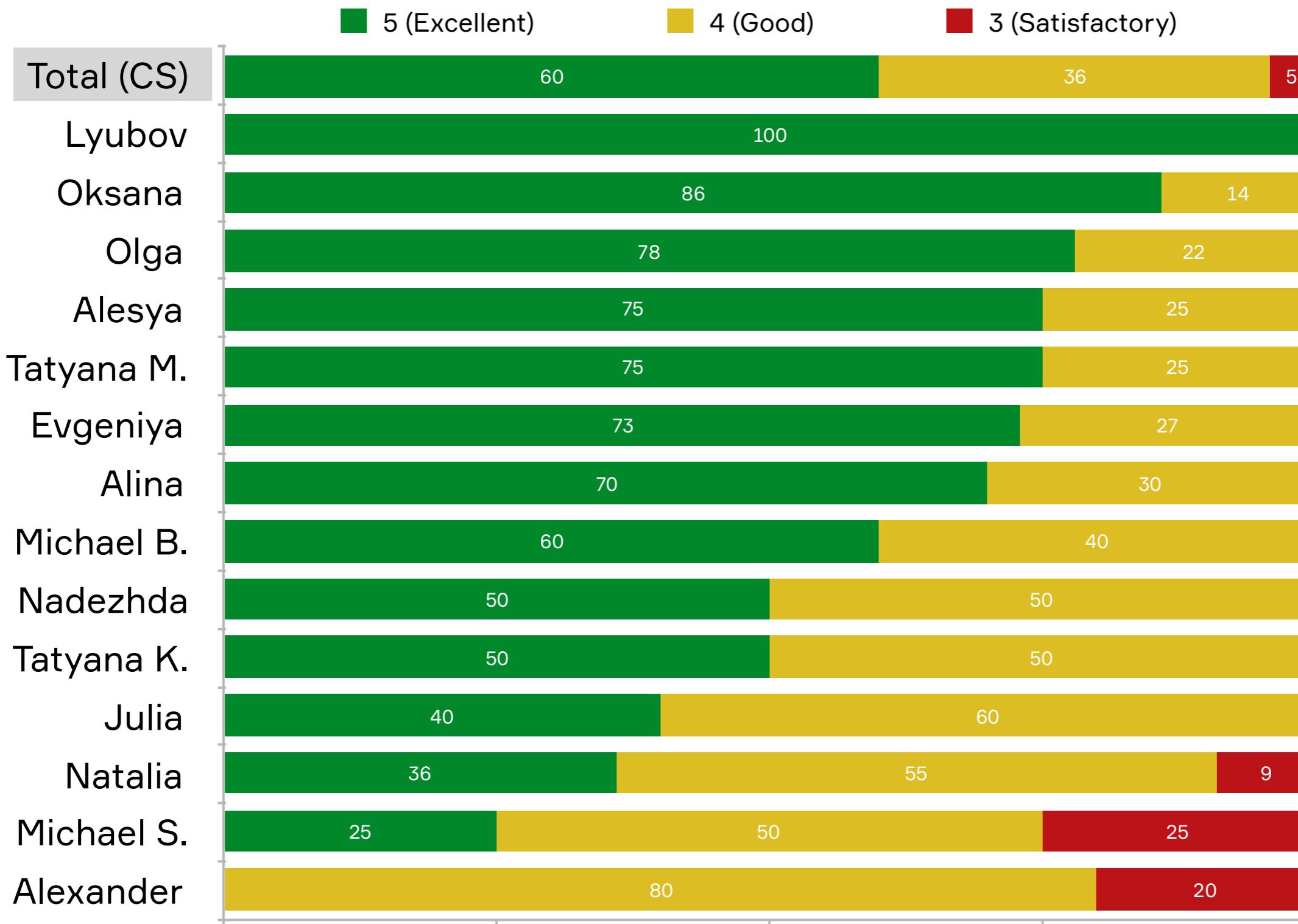
Empathy Evaluation

5-Point Scale, %



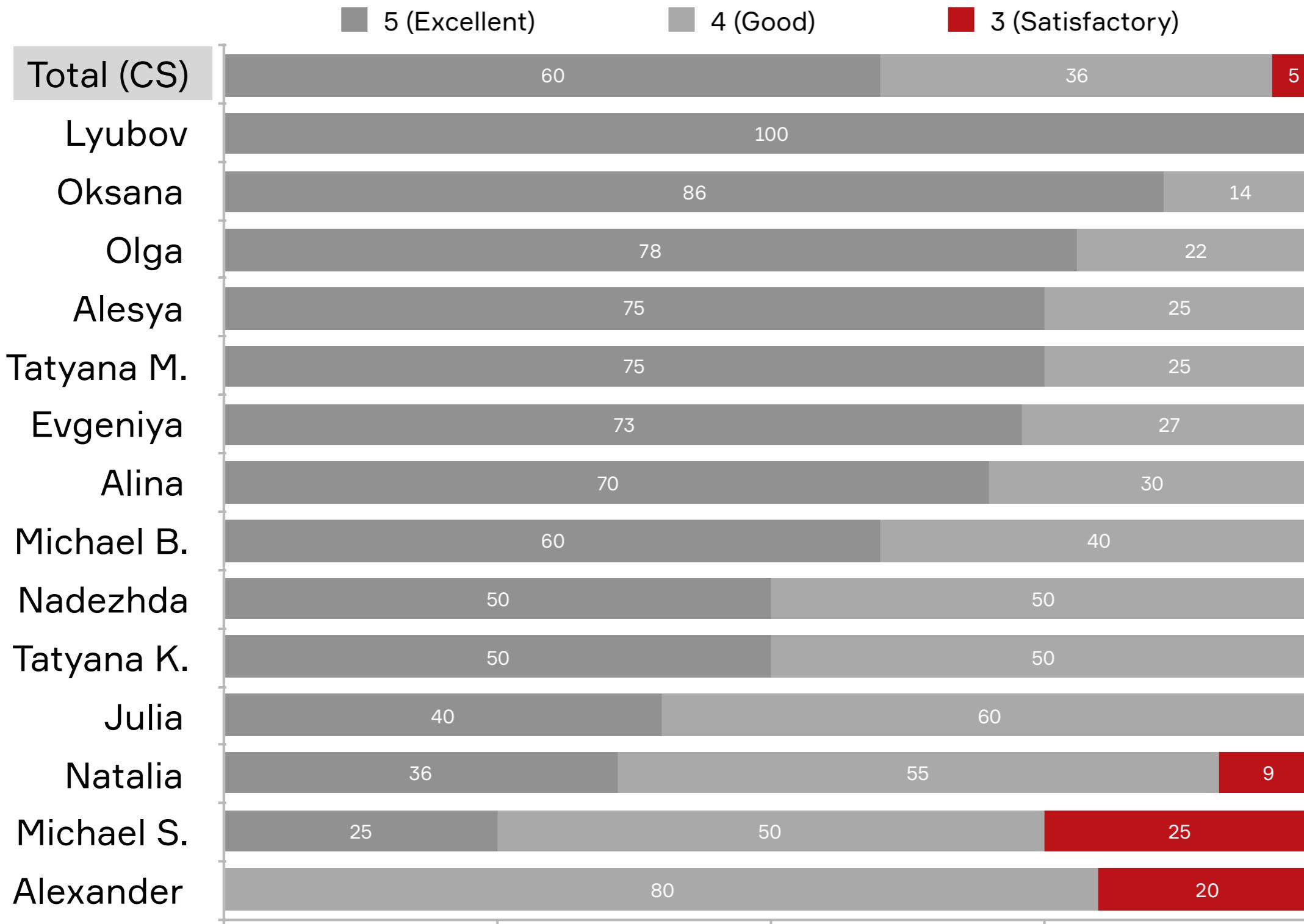
Empathy Evaluation

5-Point Scale, %



Empathy Evaluation

5-Point Scale, %



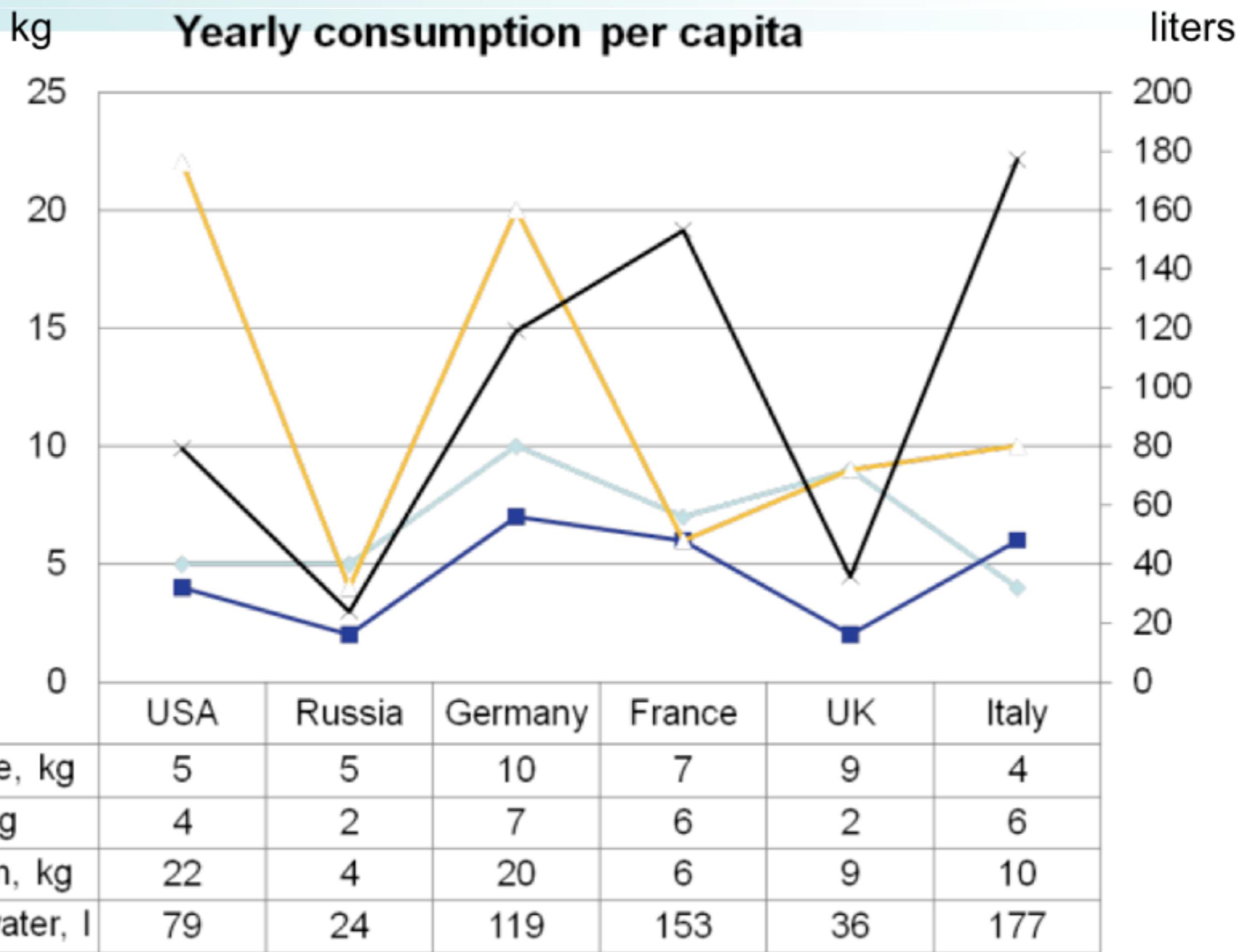
Visualize

data

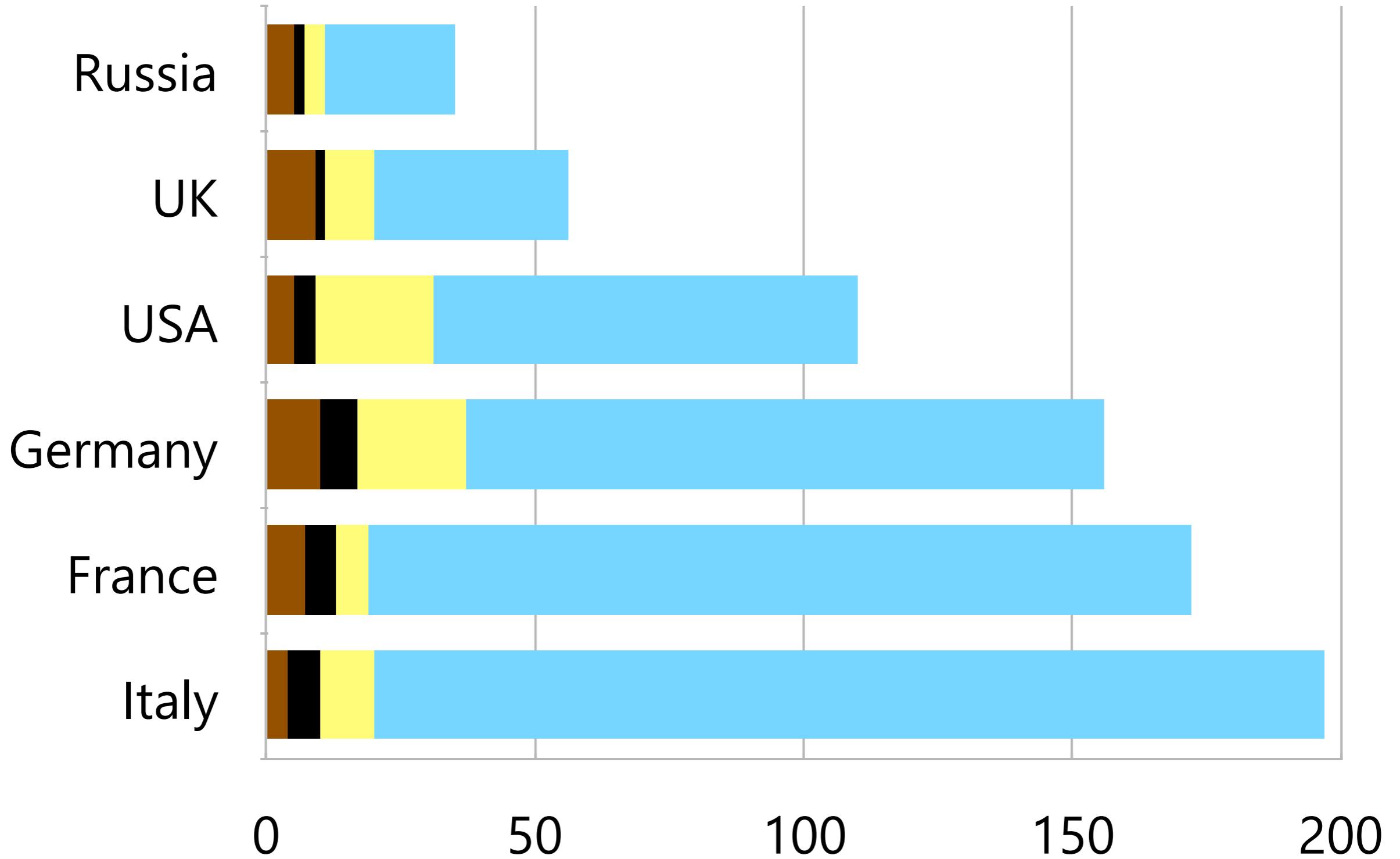


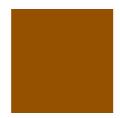
Communicate

conclusions



Chocolate Coffee Ice-cream Bottled water





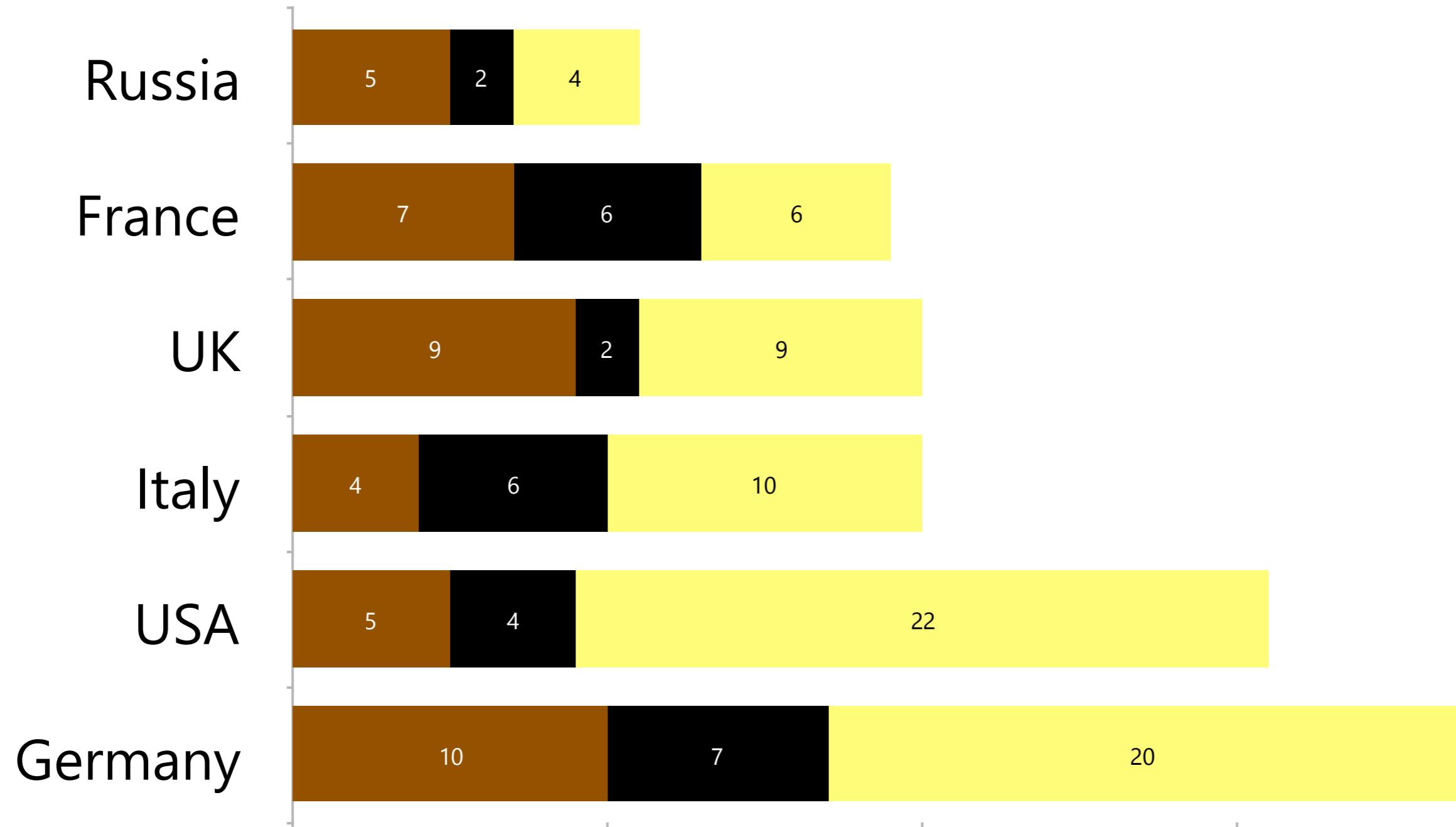
Chocolate



Coffee



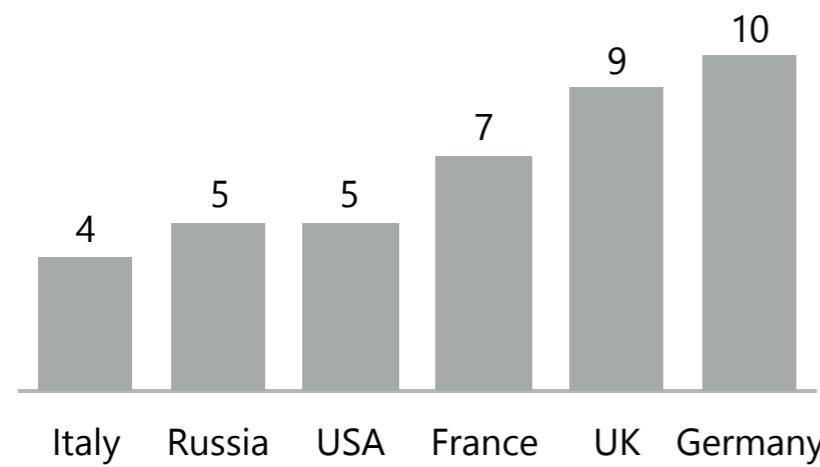
Ice-cream



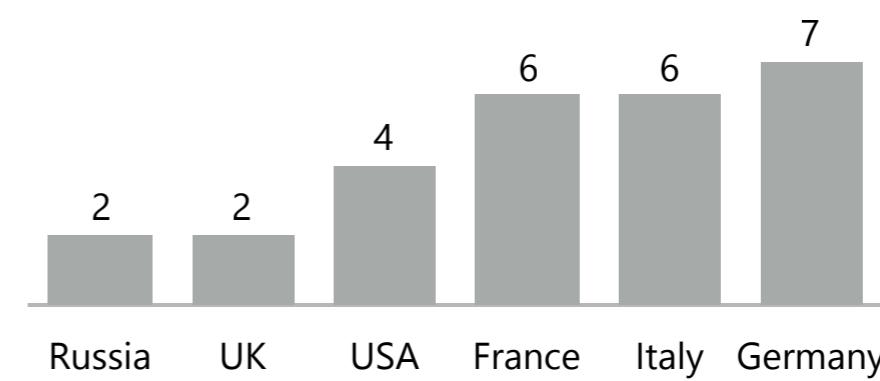
Russia is lags behind in most product categories

Yearly consumption, kg per capita

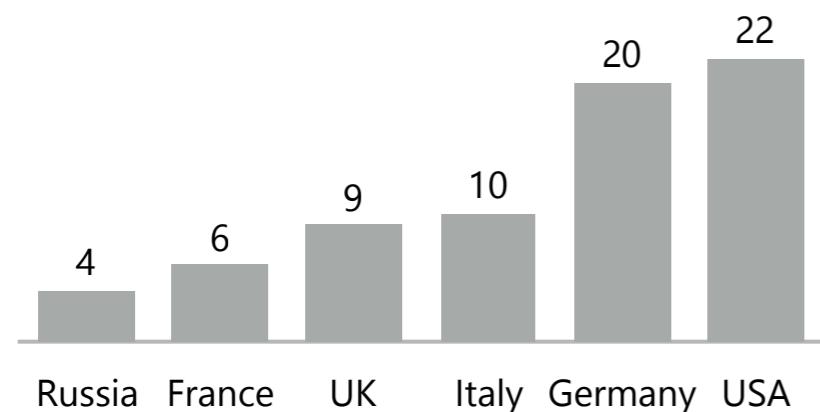
CHOCOLATE



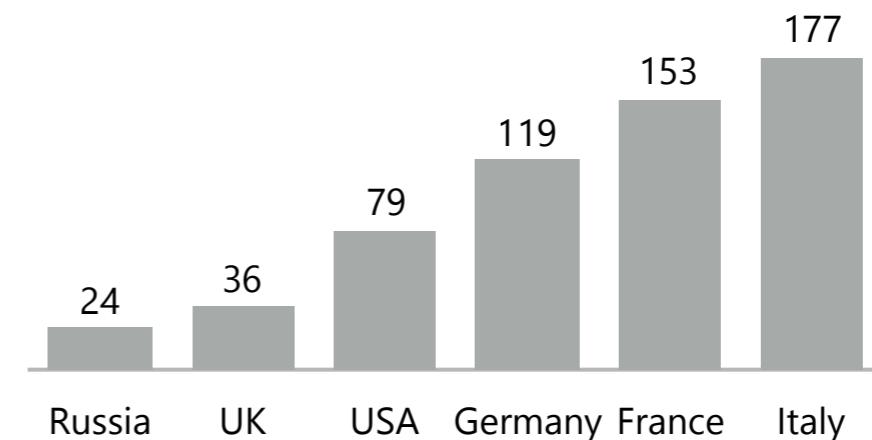
COFFEE



ICE-CREAM



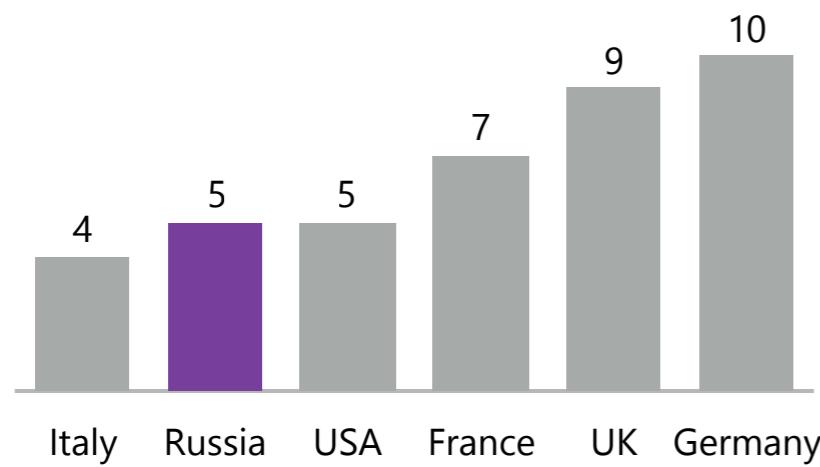
BOTTLED WATER



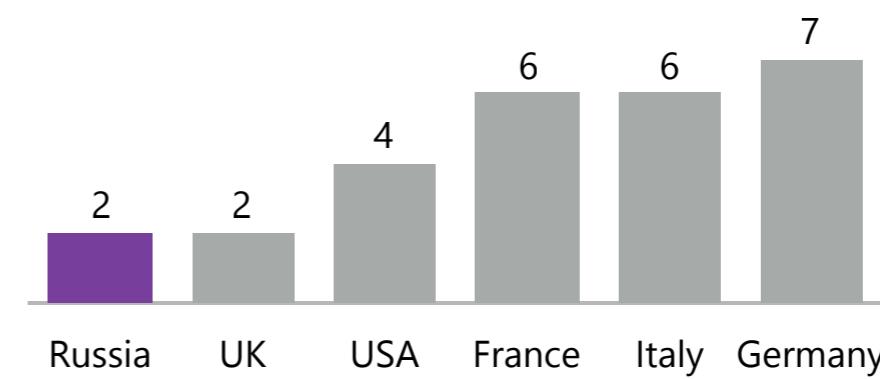
Russia is lags behind in most product categories

Yearly consumption, kg per capita

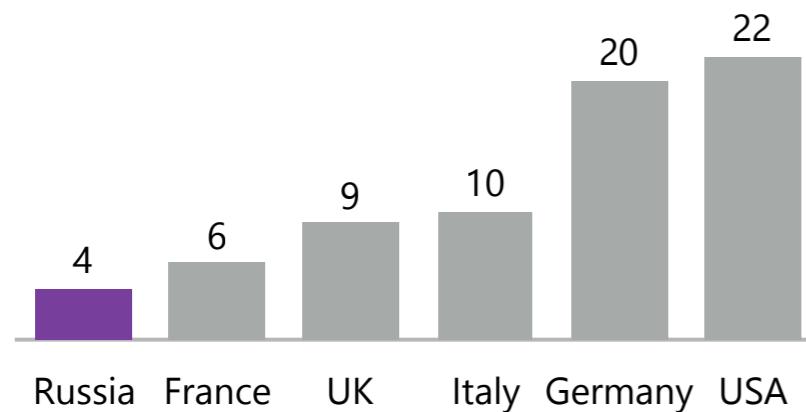
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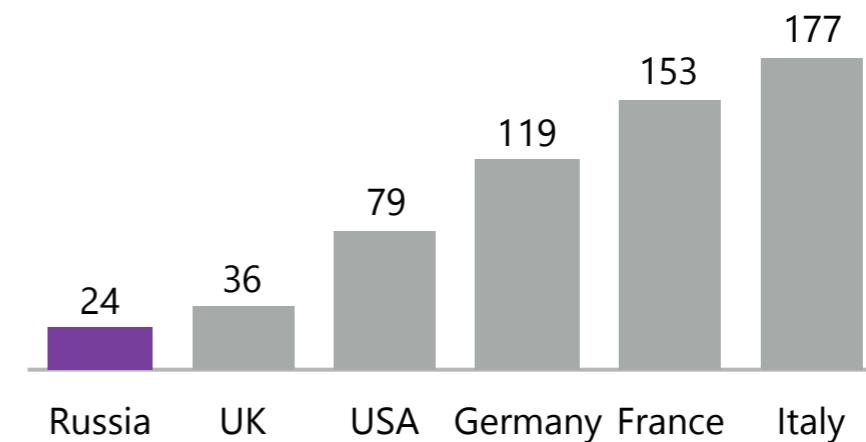
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ICE-CREAM



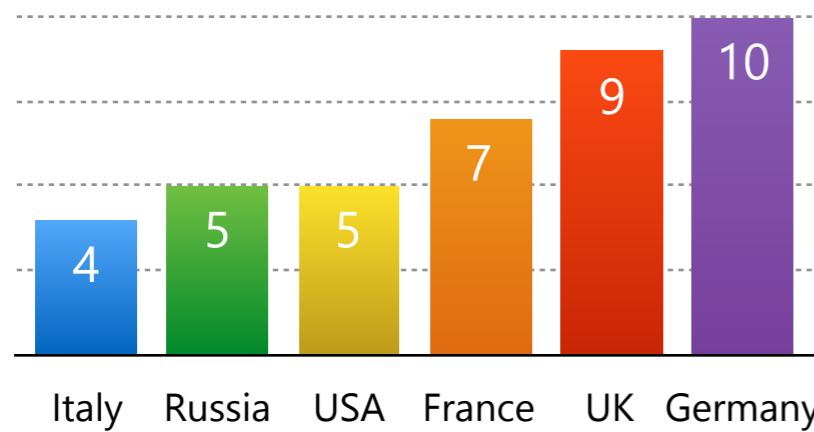
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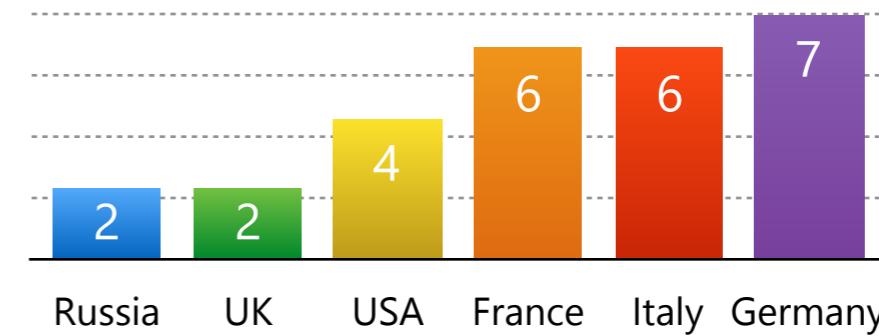
Russia is lags behind in most product categories

Yearly consumption, kg per capita

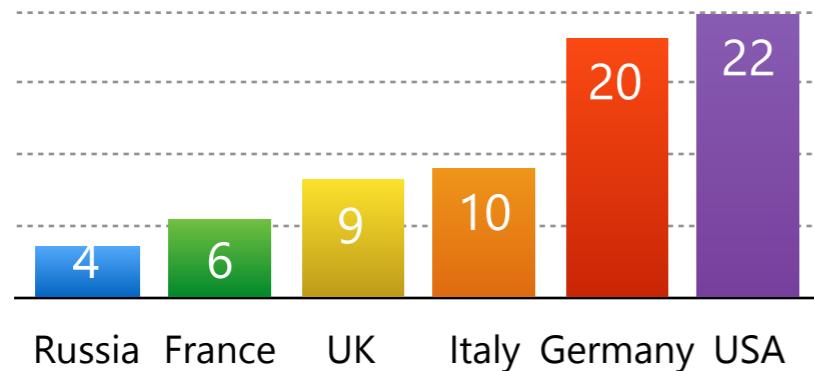
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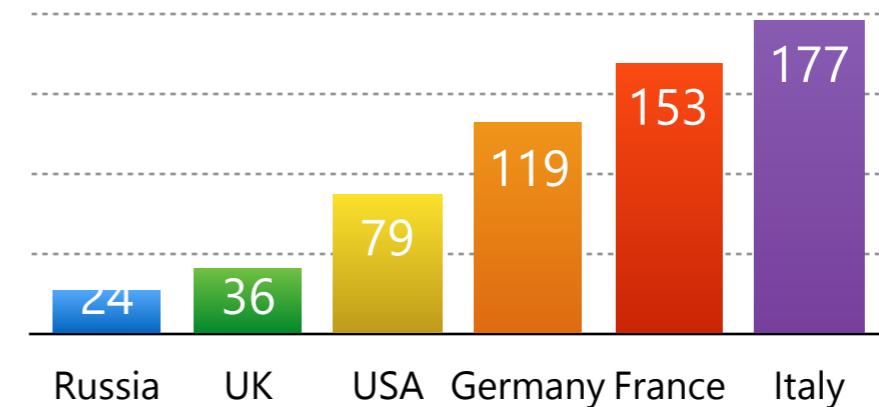
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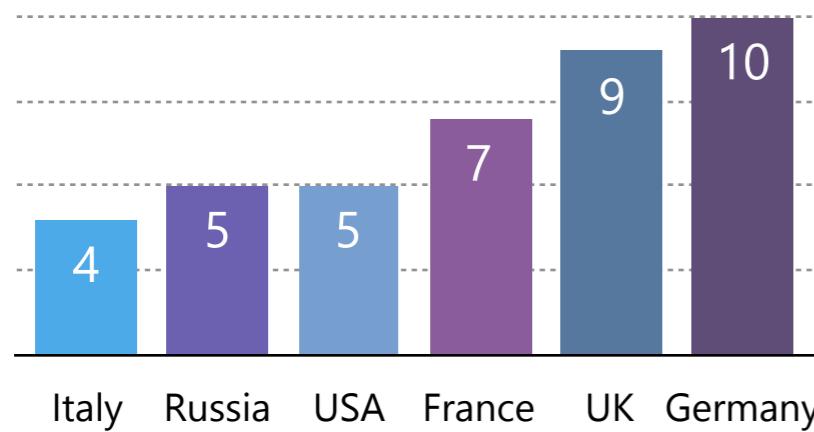
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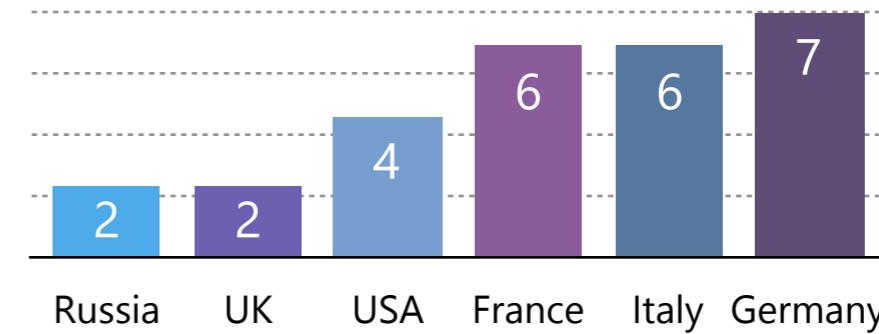
Russia is lags behind in most product categories

Yearly consumption, kg per capita

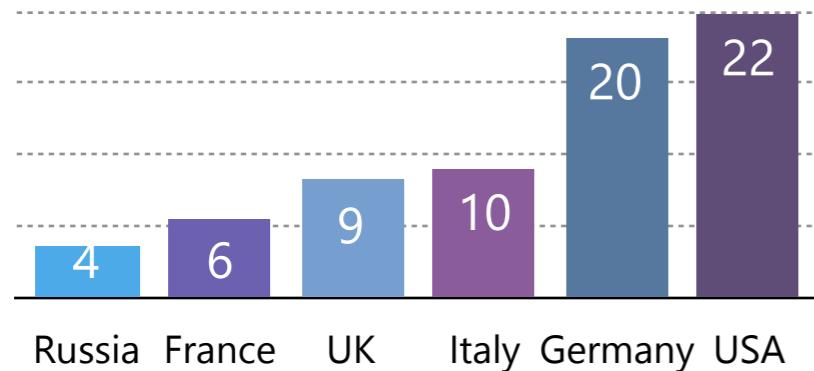
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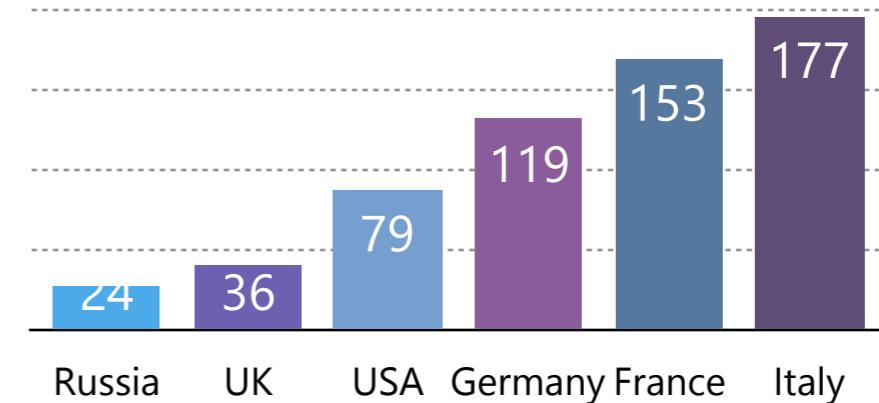
COFFEE



ICE-CREAM



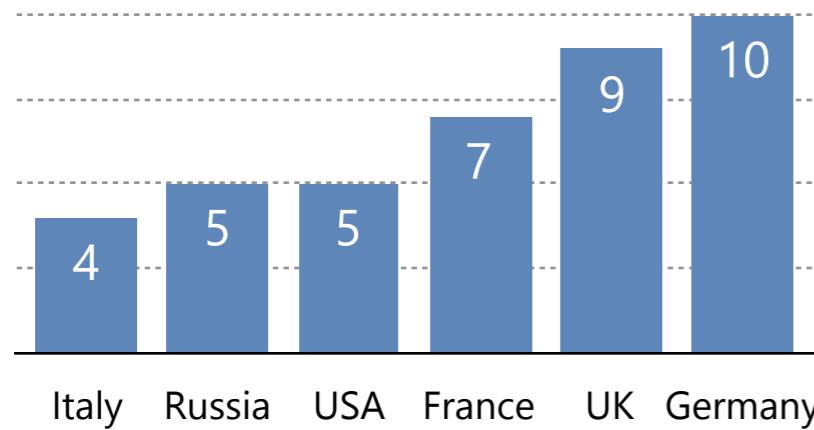
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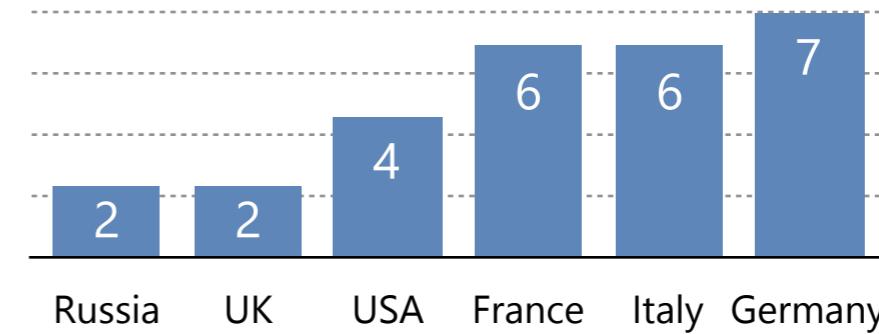
Russia is lags behind in most product categories

Yearly consumption, kg per capita

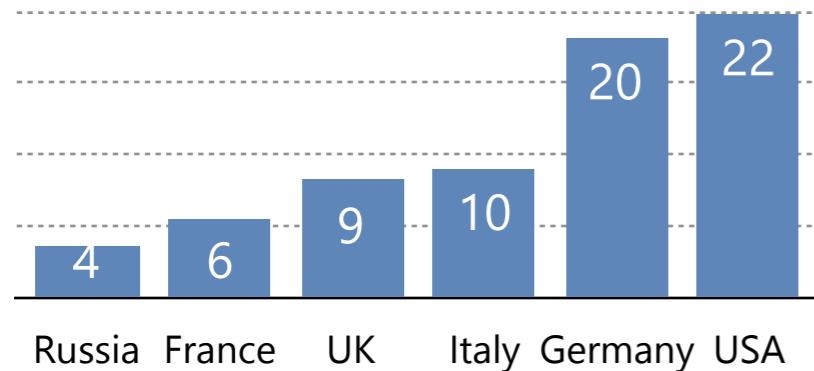
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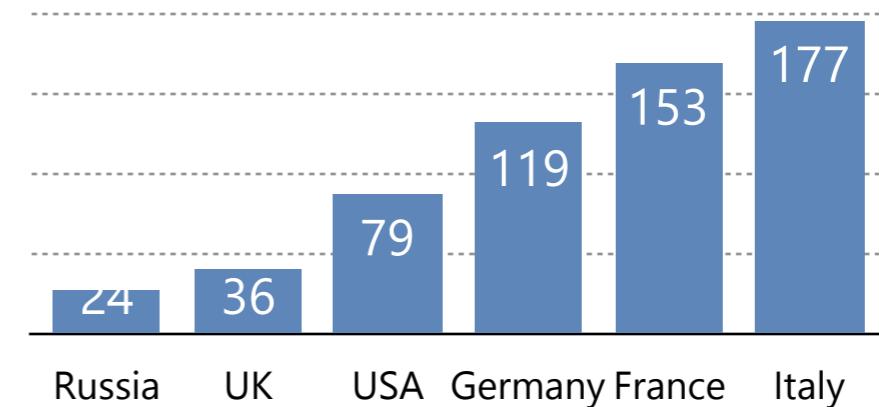
COFFEE



ICE-CREAM



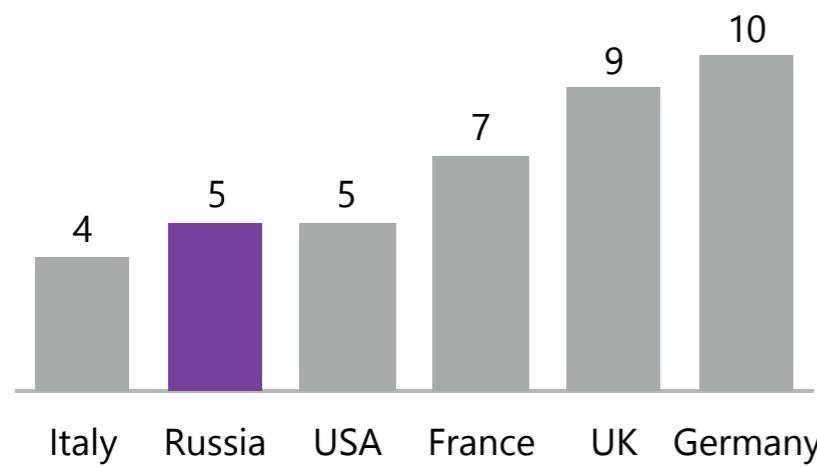
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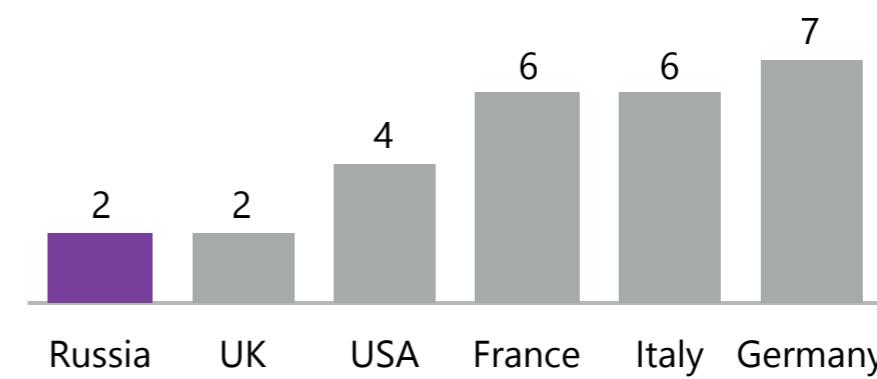
Russia is lags behind in most product categories

Yearly consumption, kg per capita

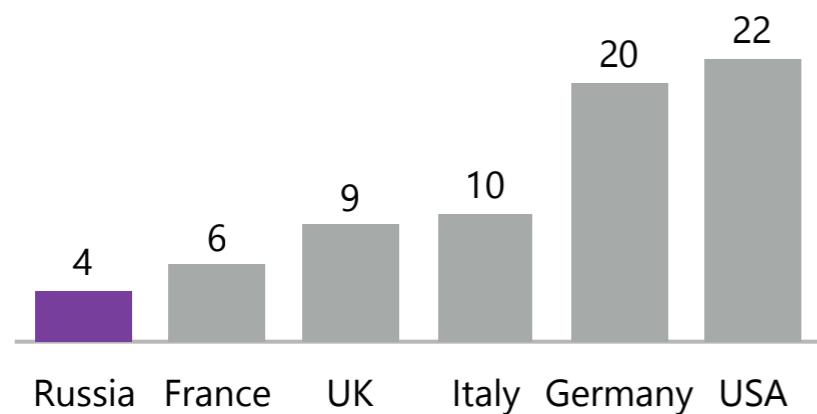
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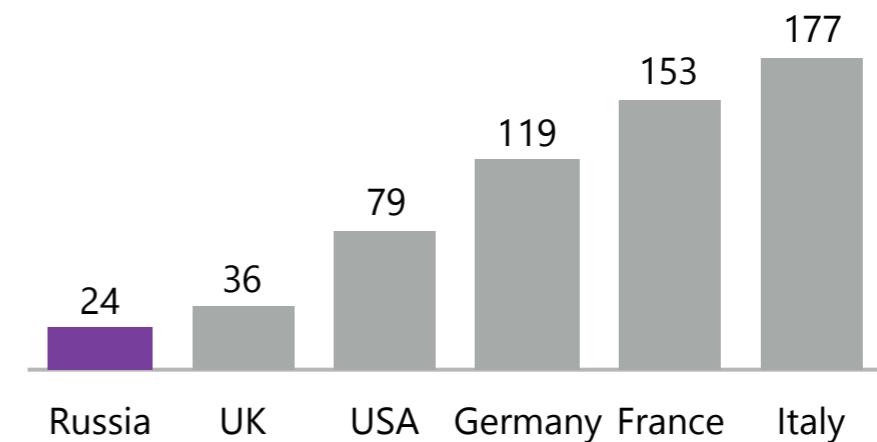
COFFEE



ICE-CREAM



BOTTLED WATER



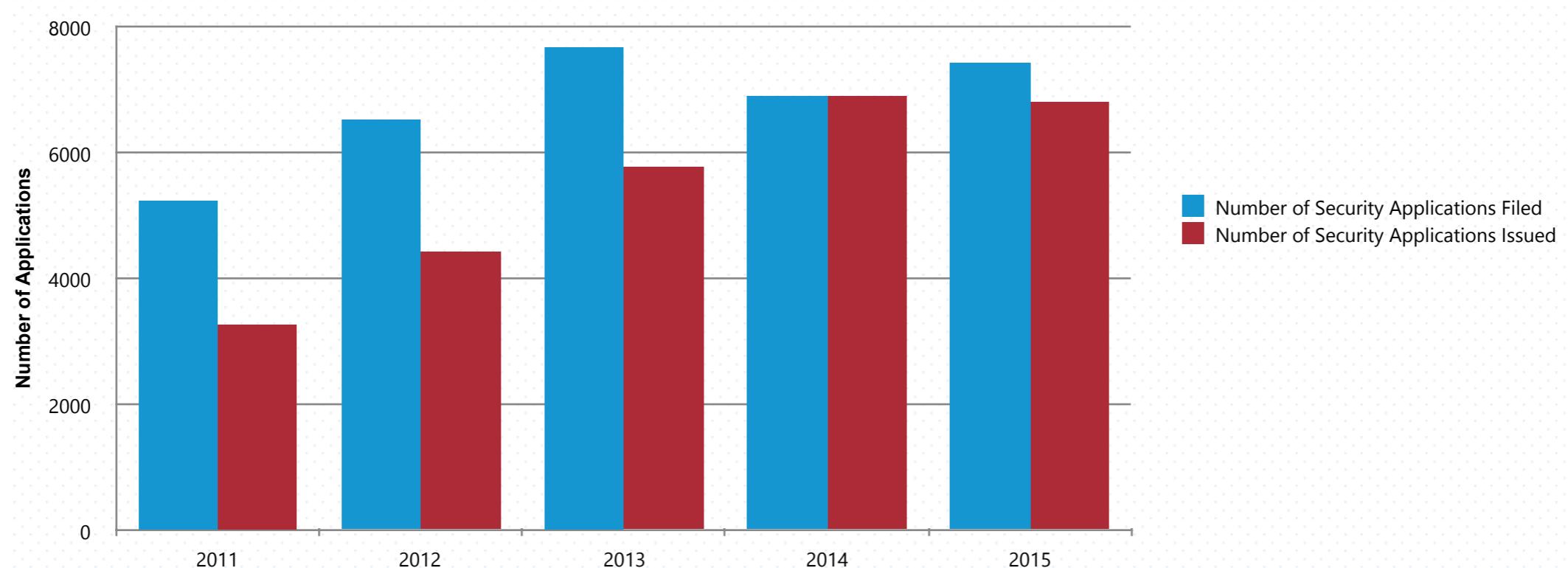
2

Remove
unnecessary details

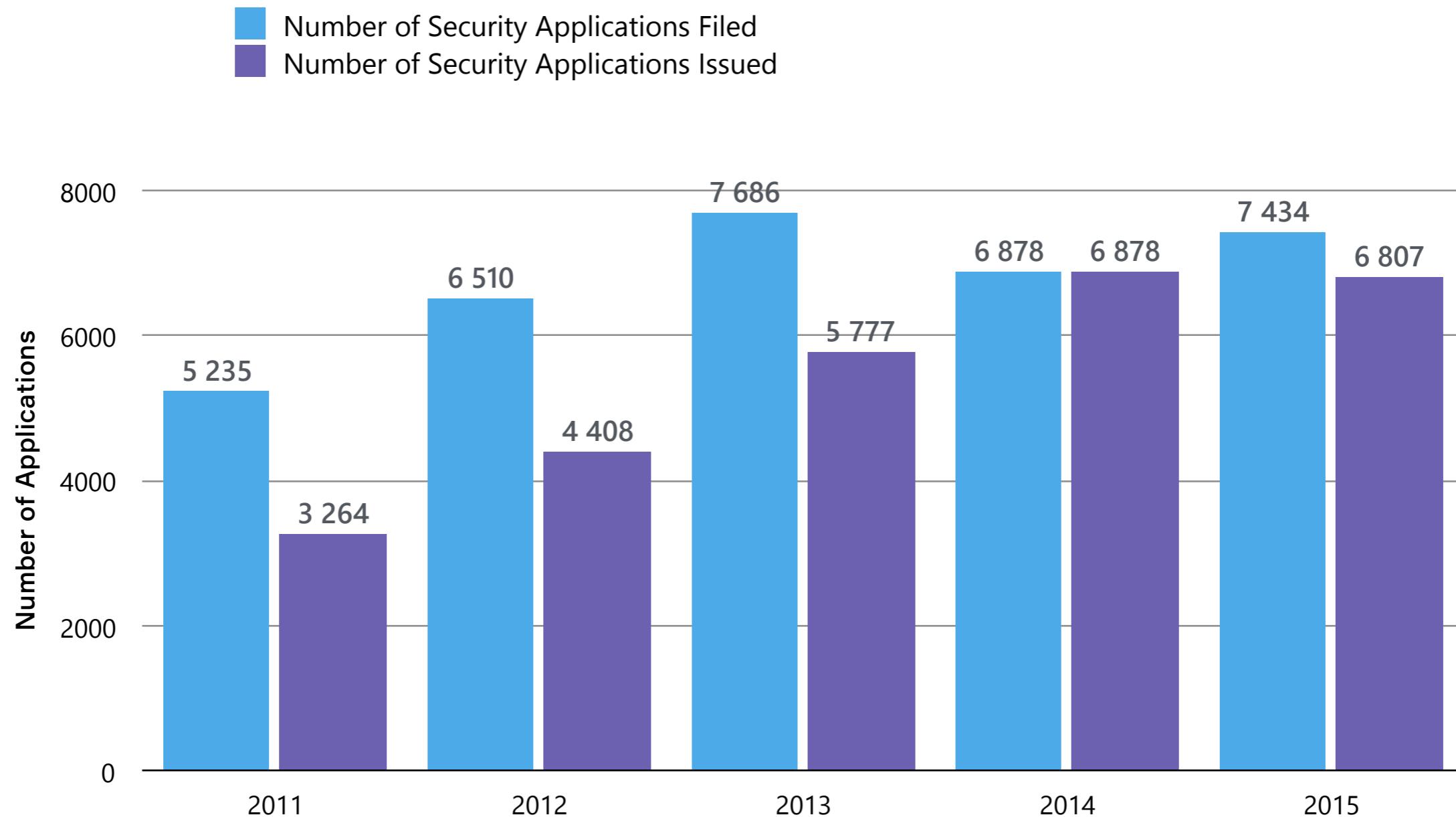
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Information Security and Cryptography Applications - Filed vs. Issued

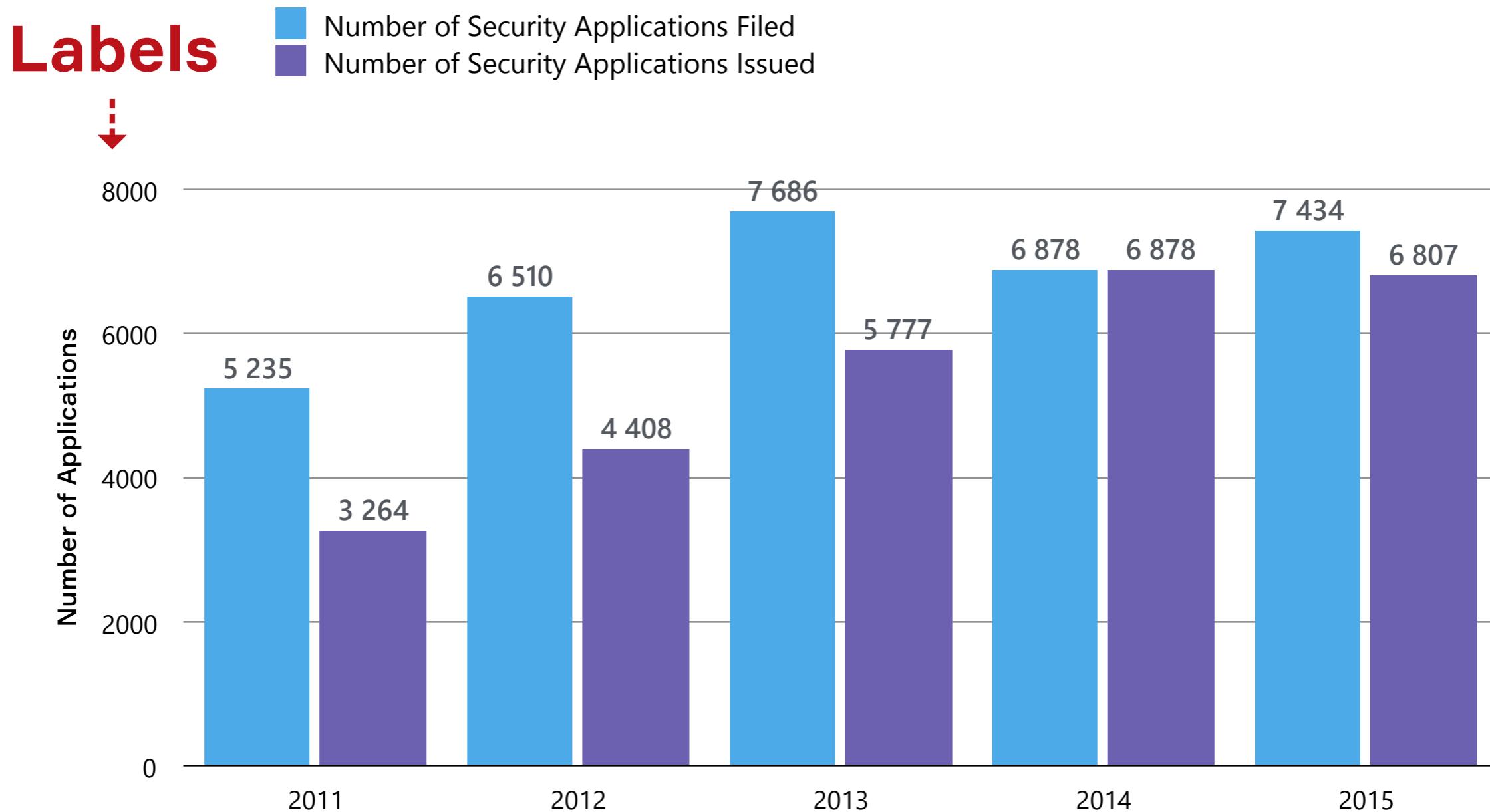
	2011	2012	2013	2014	2015
Number of Security Applications Filed	5235	6510	7686	6878	7434
Number of Security Applications Issued	3264	4408	5777	6878	6807



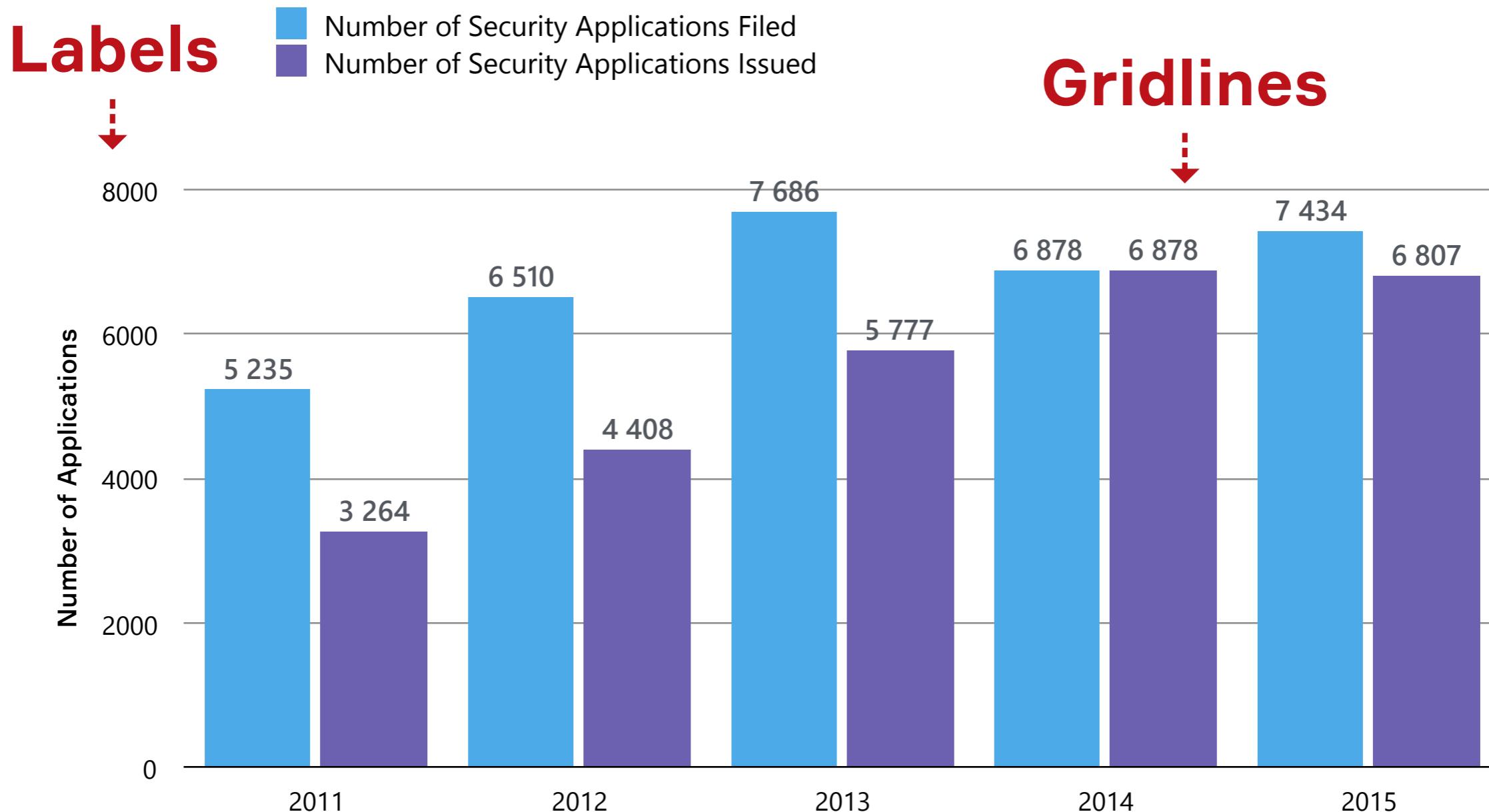
Information Security and Cryptography Applications



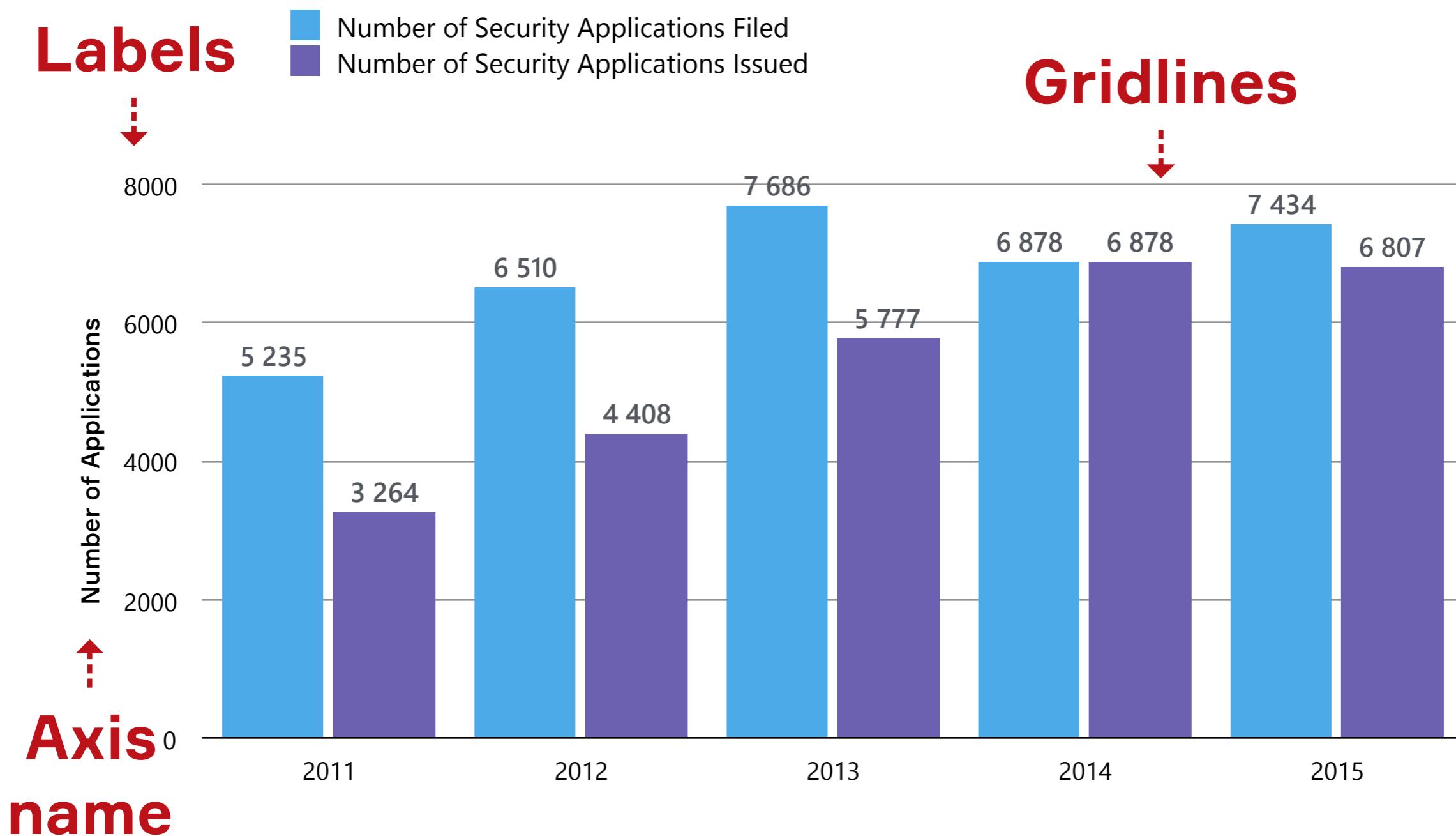
Information Security and Cryptography Applications



Information Security and Cryptography Applications

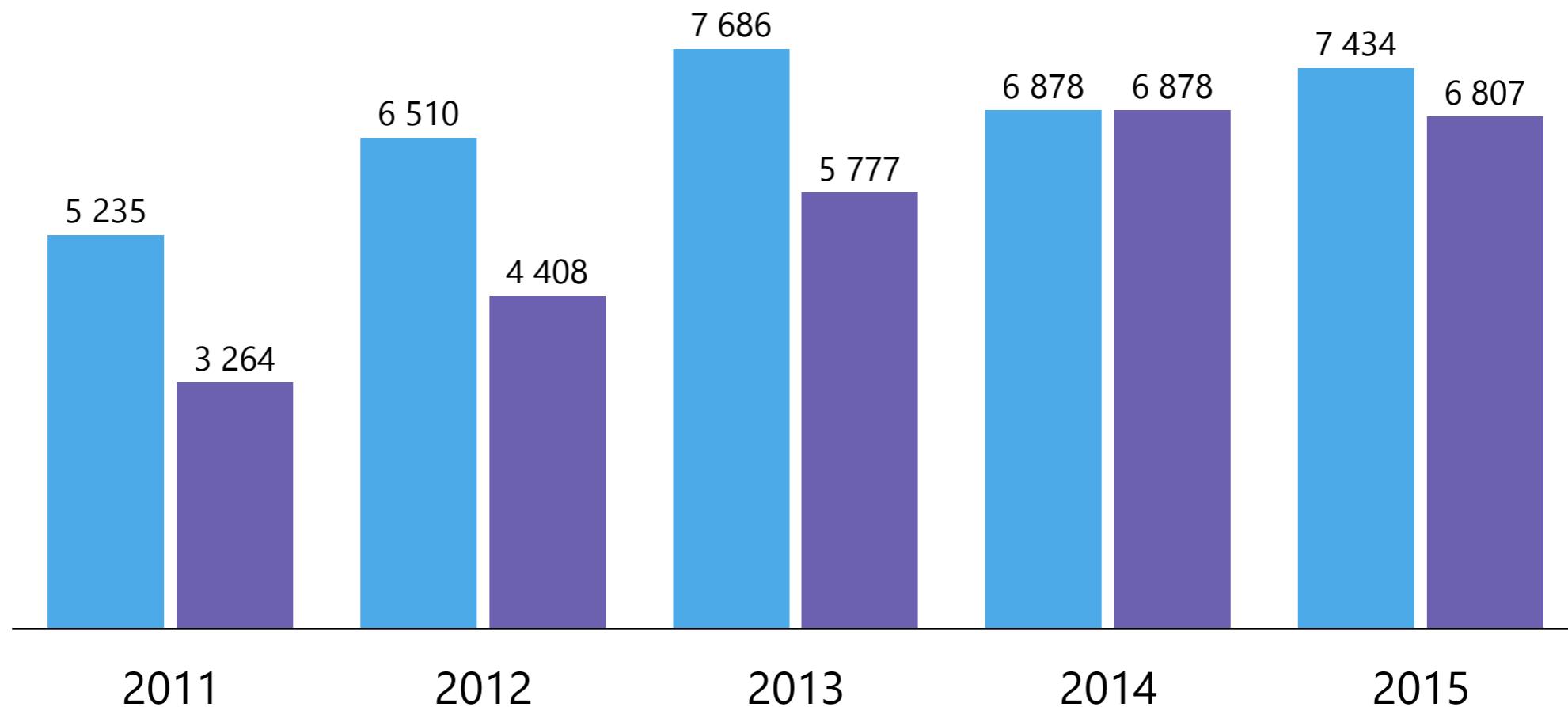


Information Security and Cryptography Applications

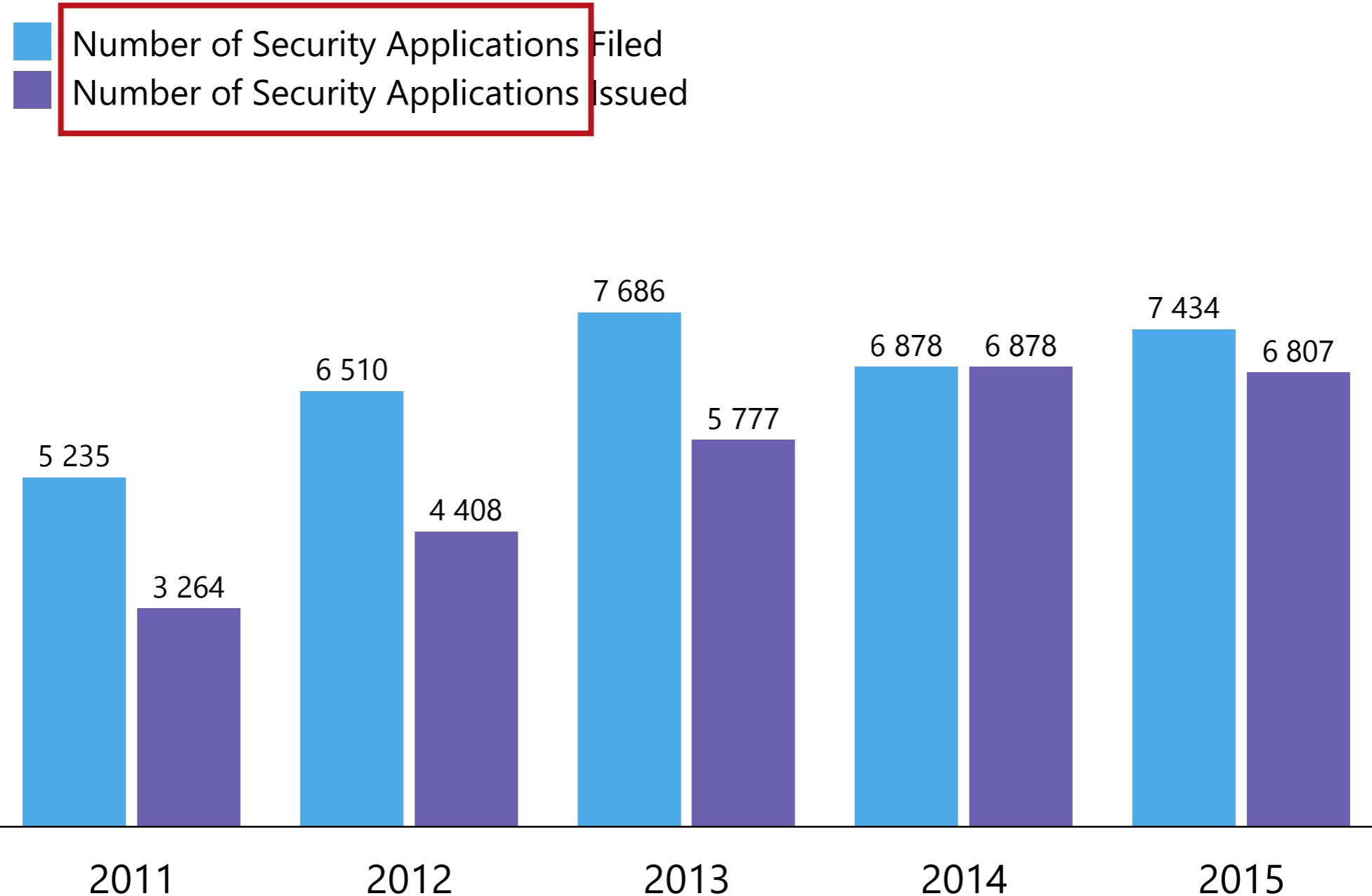


Information Security and Cryptography Applications

█ Number of Security Applications Filed
█ Number of Security Applications Issued

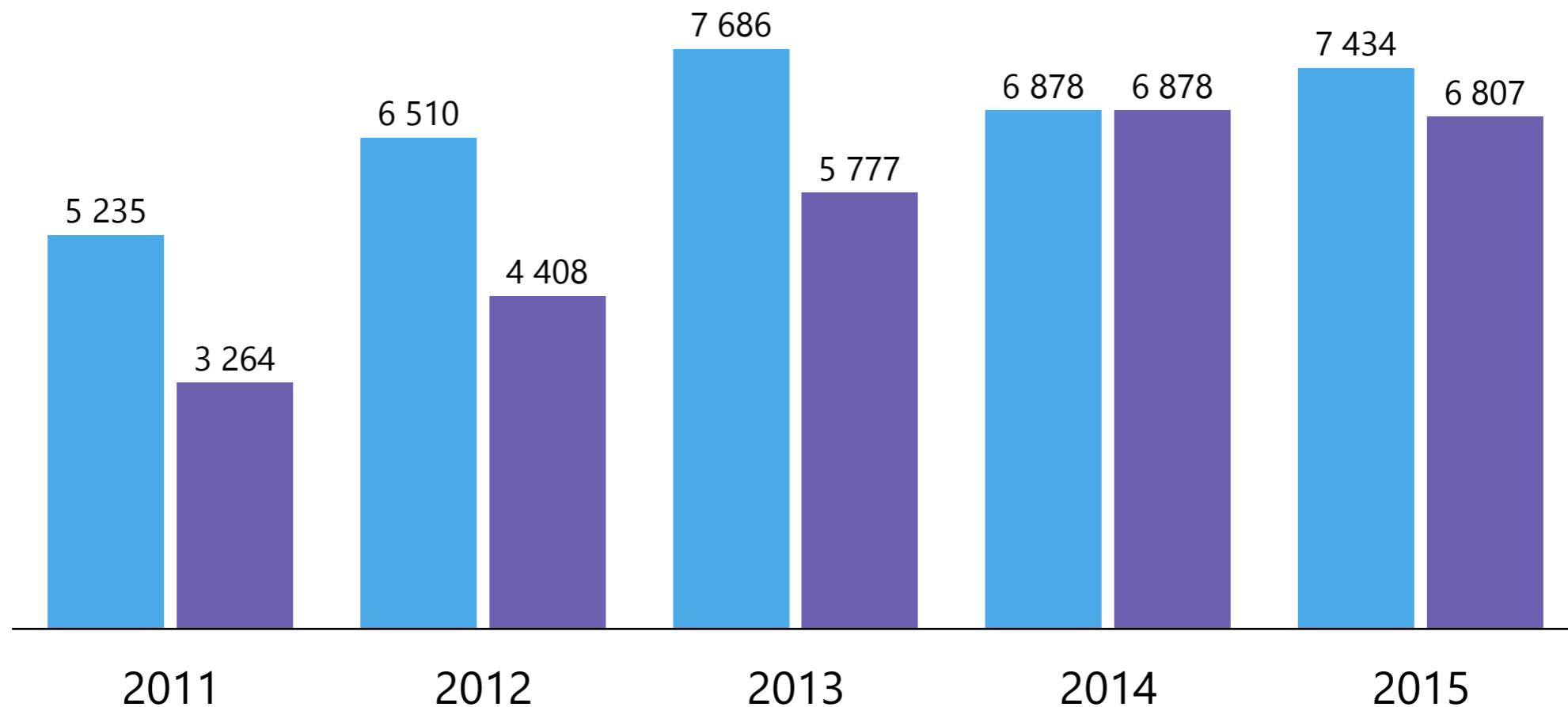


Information Security and Cryptography Applications

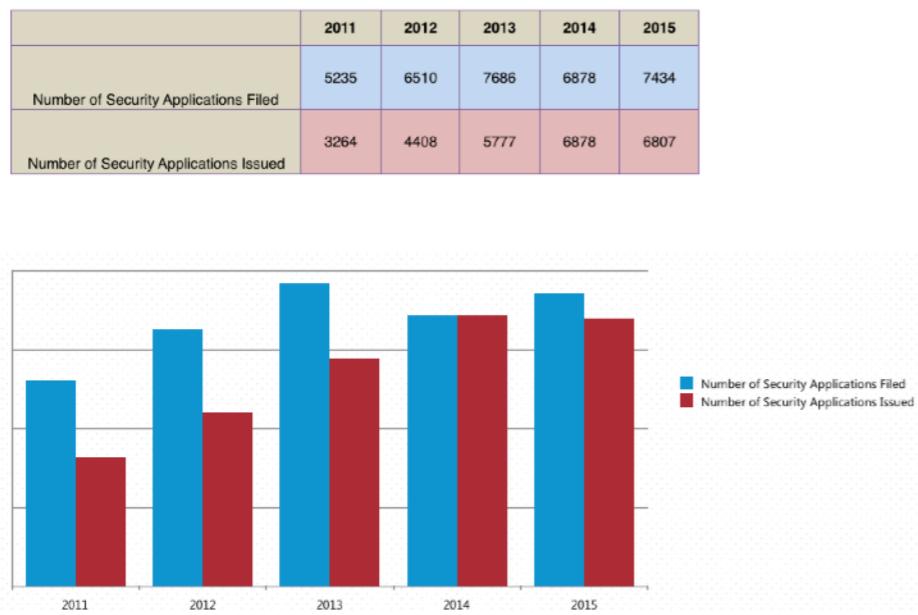


Information Security and Cryptography Applications

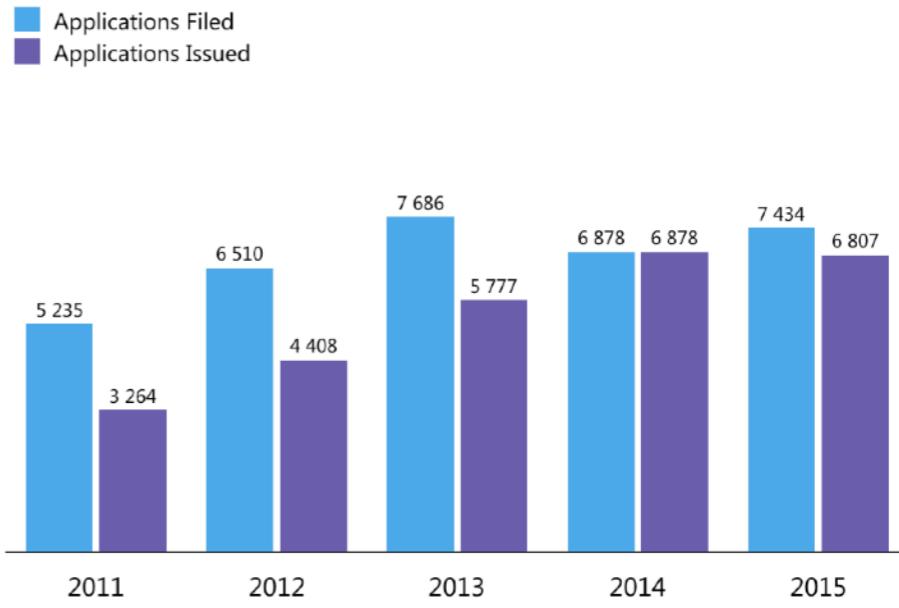
█ Applications Filed
█ Applications Issued



Information Security and Cryptography Applications - Filed vs. Issued



Information Security and Cryptography Applications



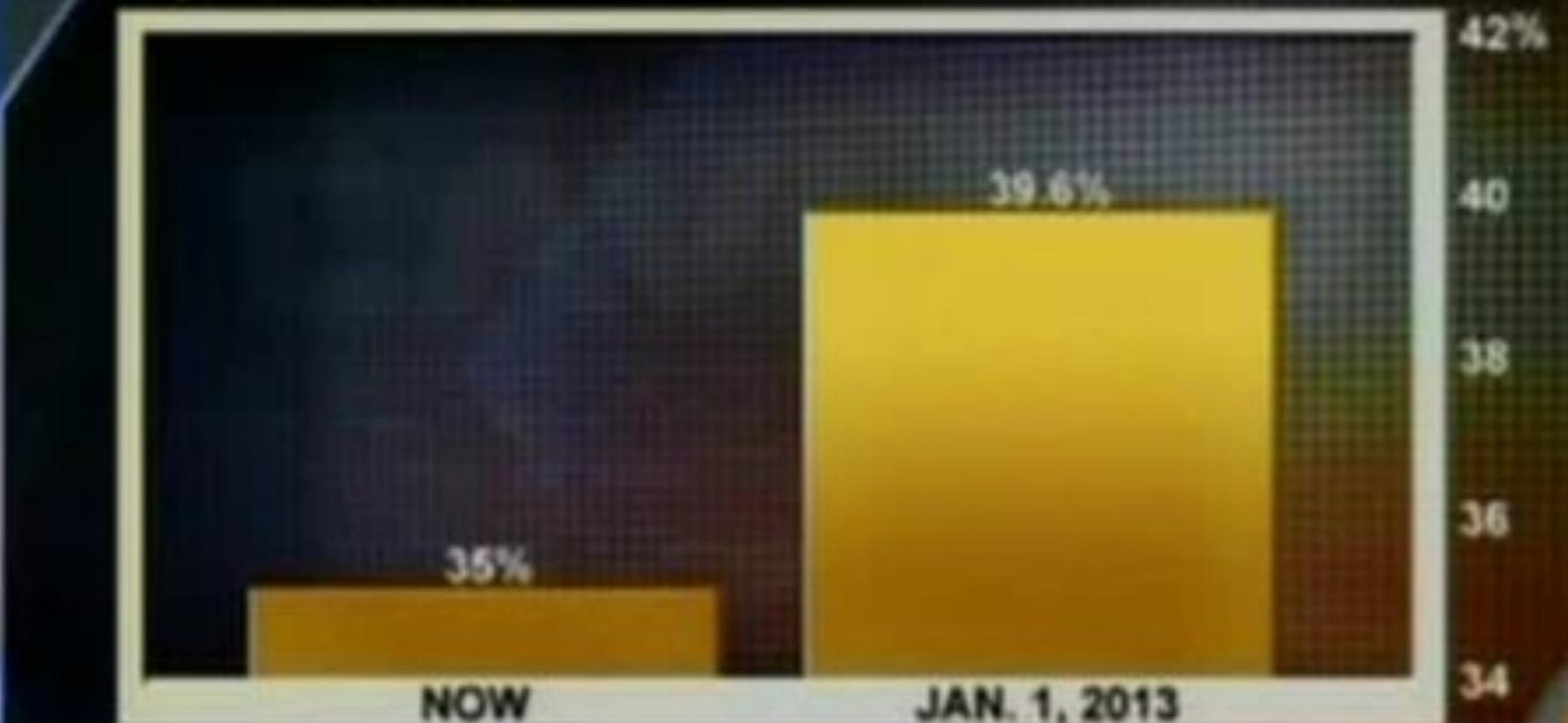
3

Start at zero
(but don't be fanatical)



IF BUSH TAX CUTS EXPIRE

TOP TAX RATE



8:01 p ET

FOX
BUSINESS

TOP STORIES

TECHNOLOGY

CONSUMER

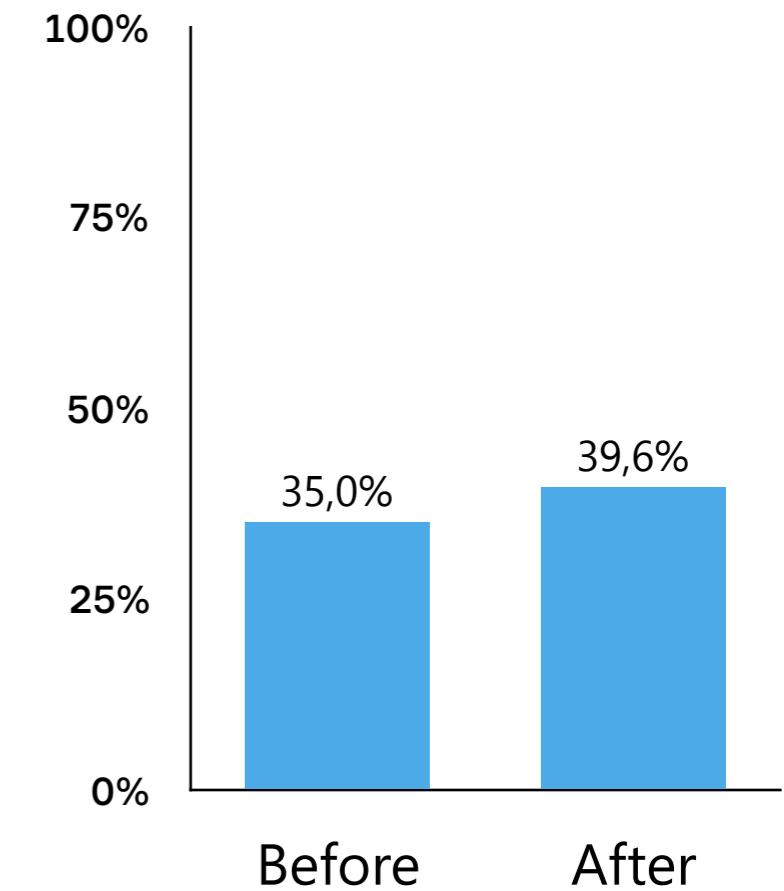
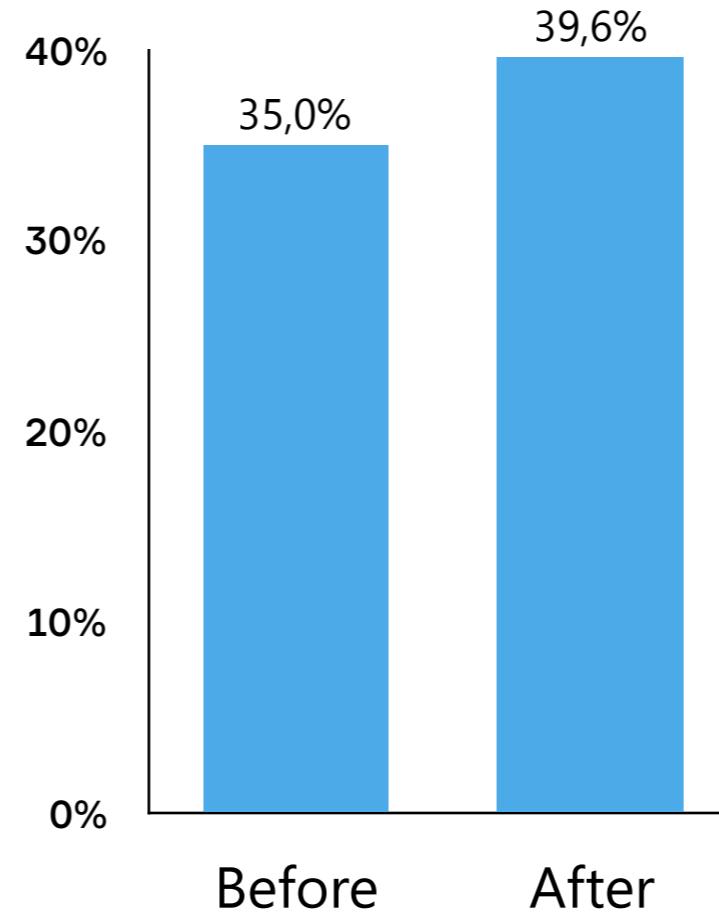
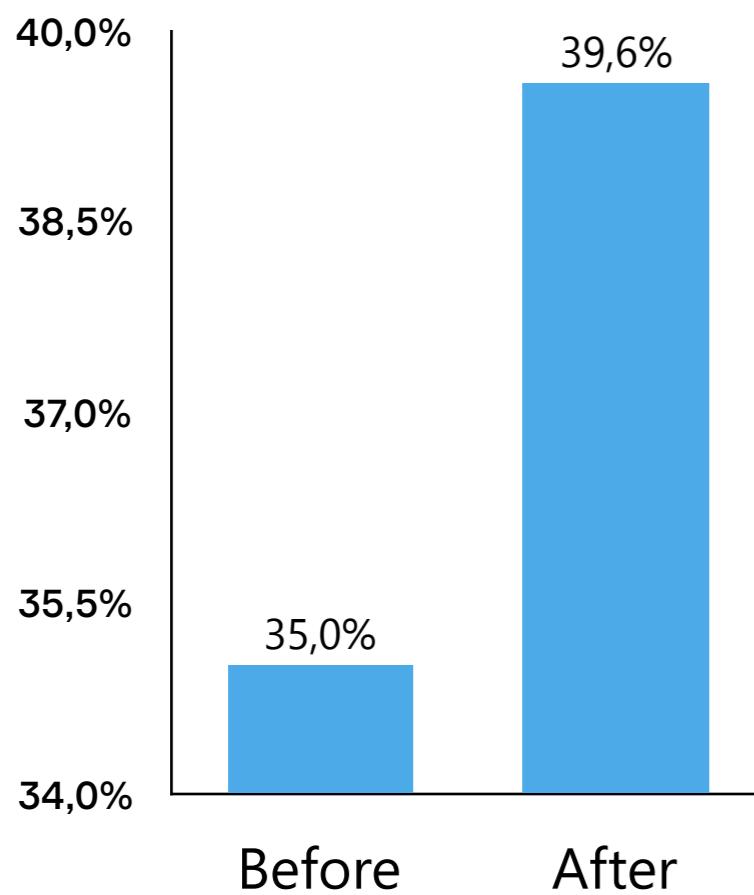
VITH THE JUSTICE DEPARTMENT AND ACQUIRES FULL T

DOW 13008.68 ▼ 64.33

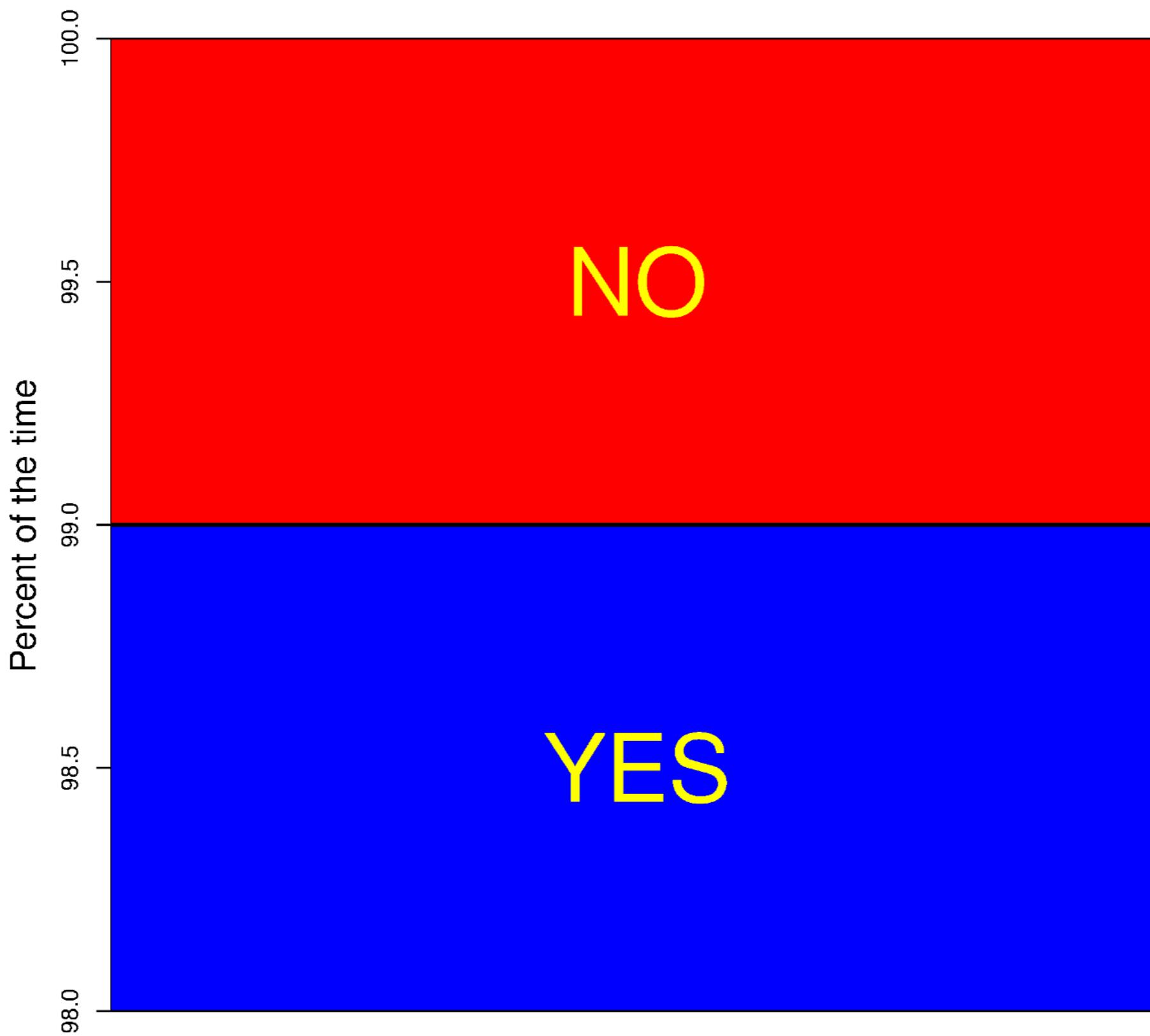
S&P 1379.32 ▼ 5.98

NASDAQ 2939.52 ▼ 6.32

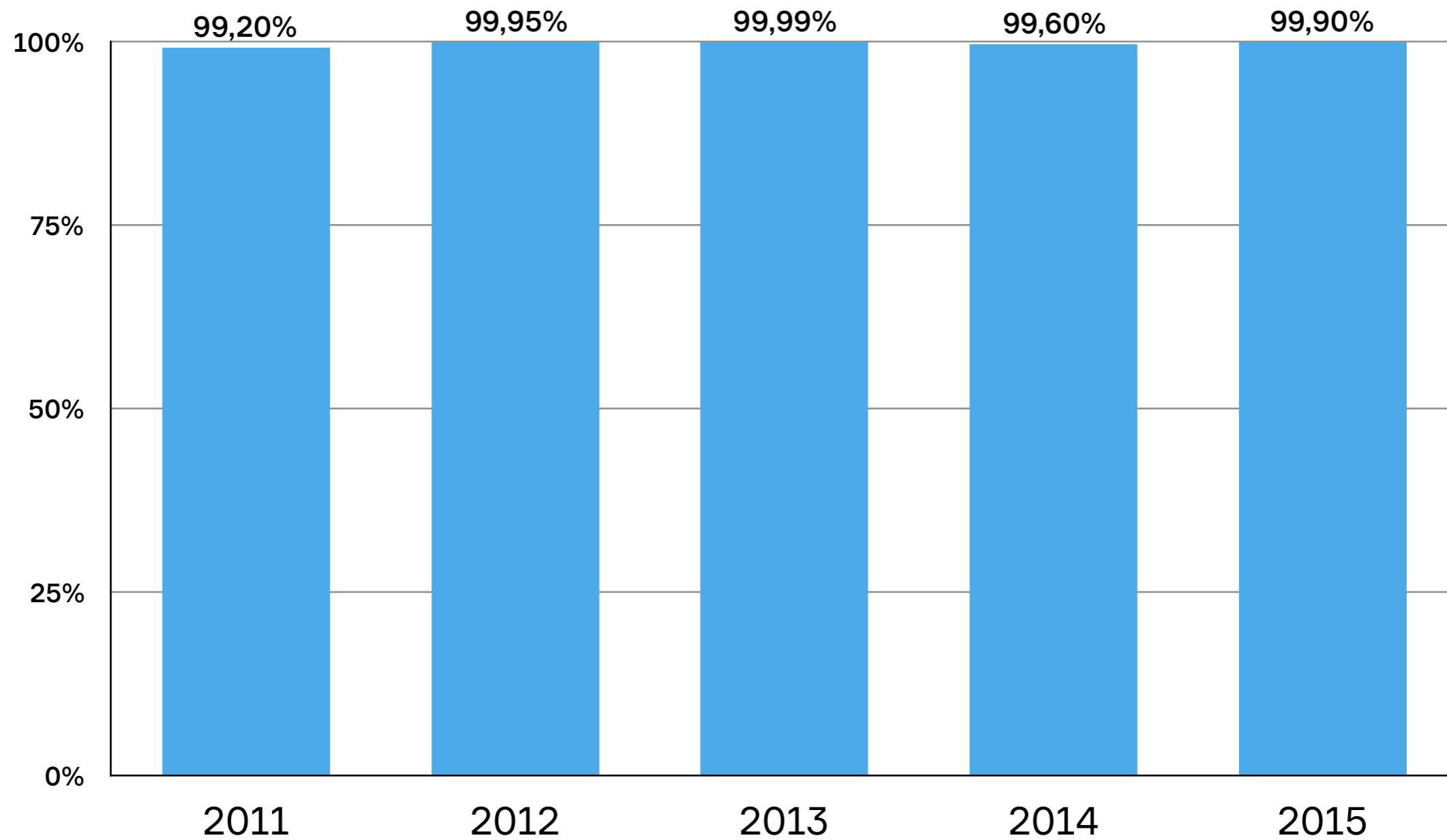
Y axis makes all the difference



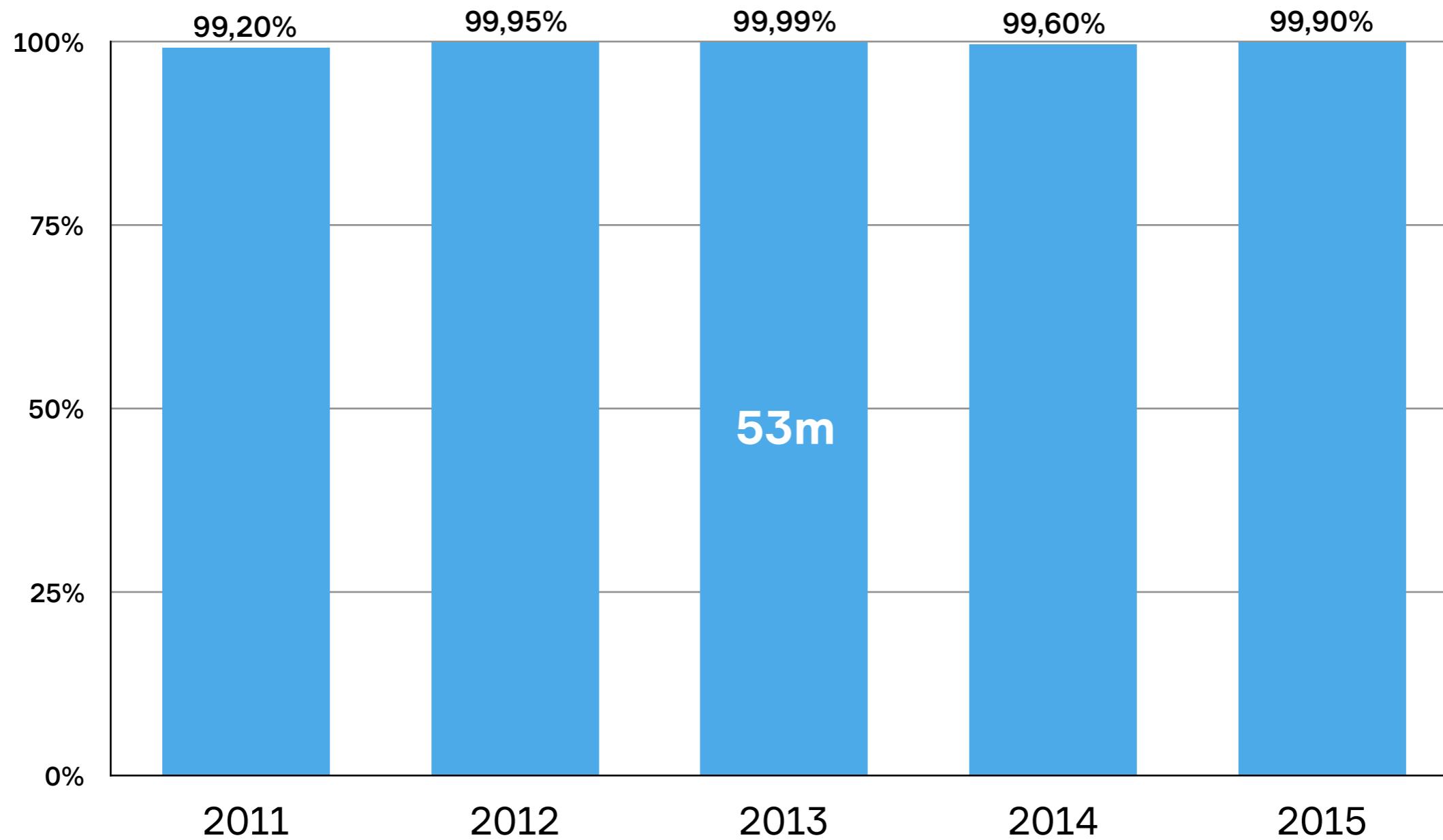
Is truncating the Y-axis misleading?



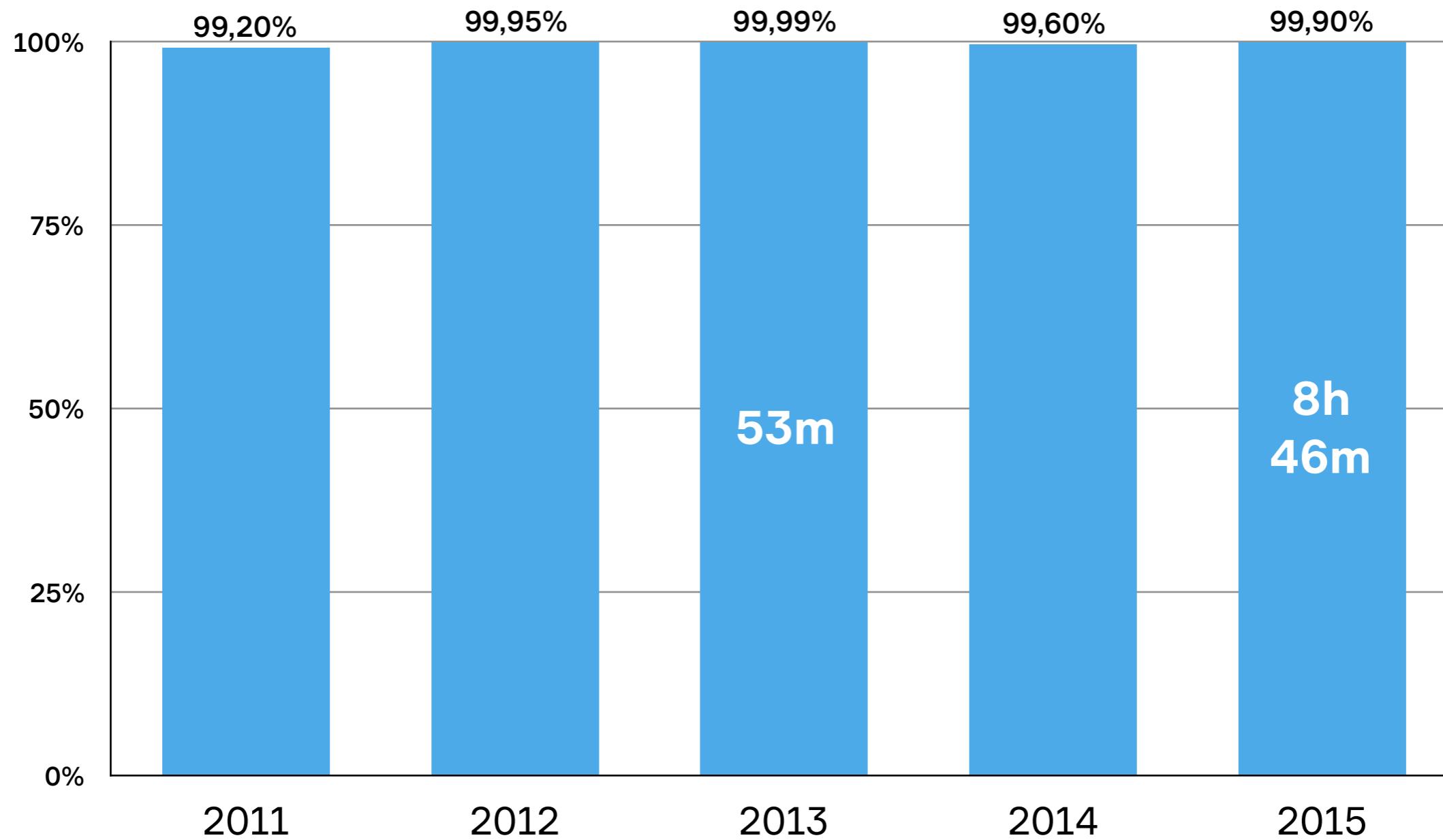
Server Uptime



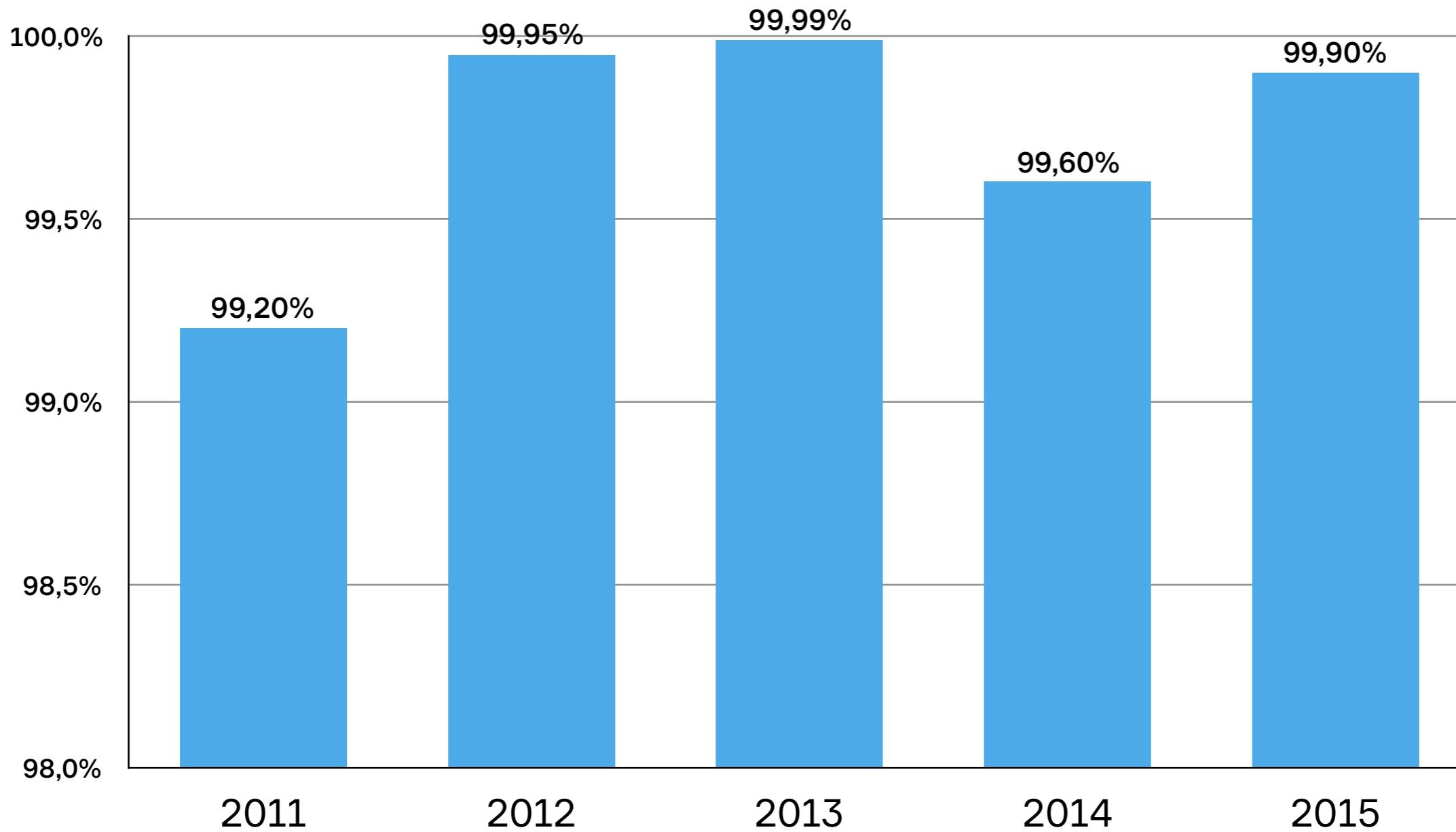
Server Uptime



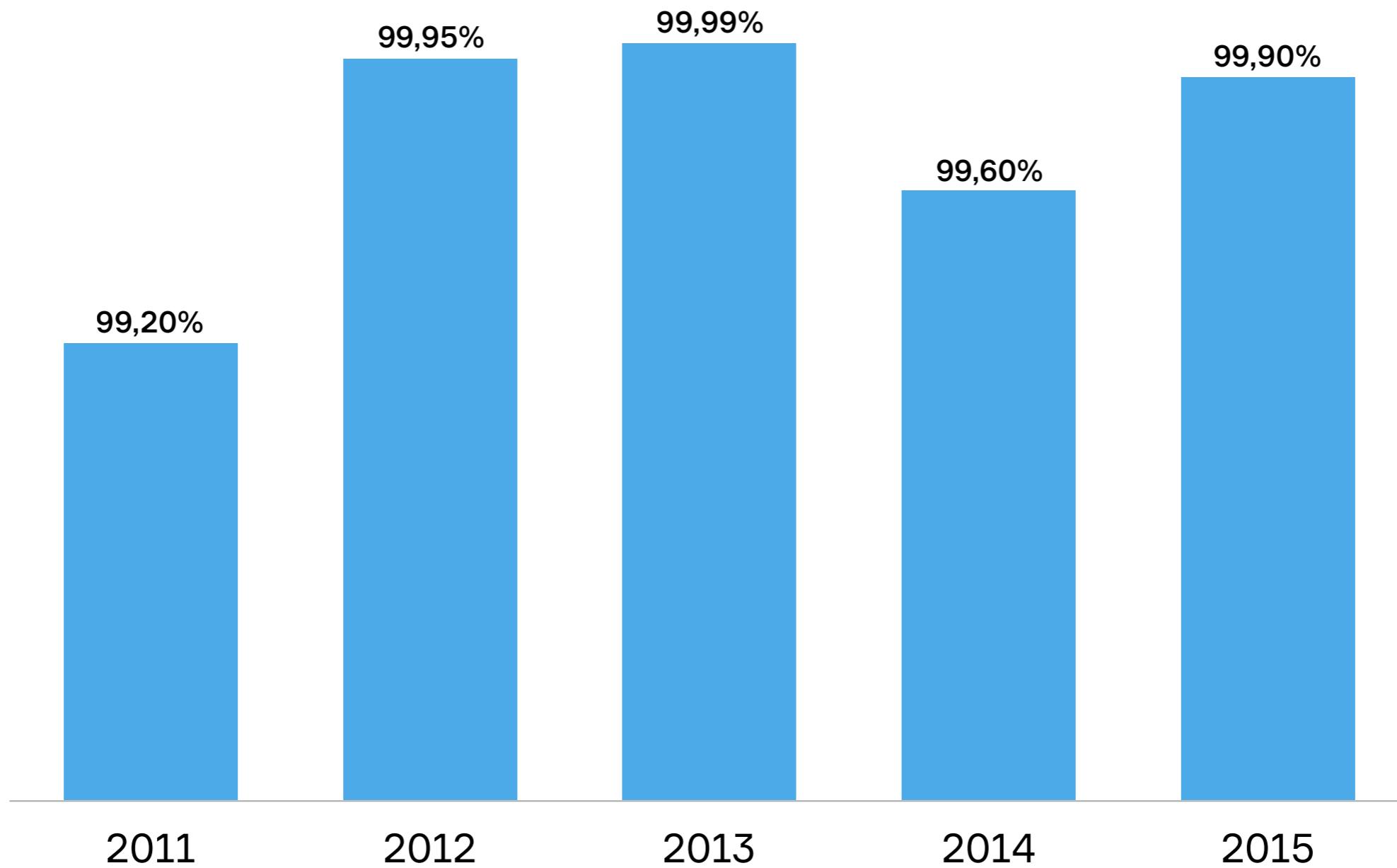
Server Uptime



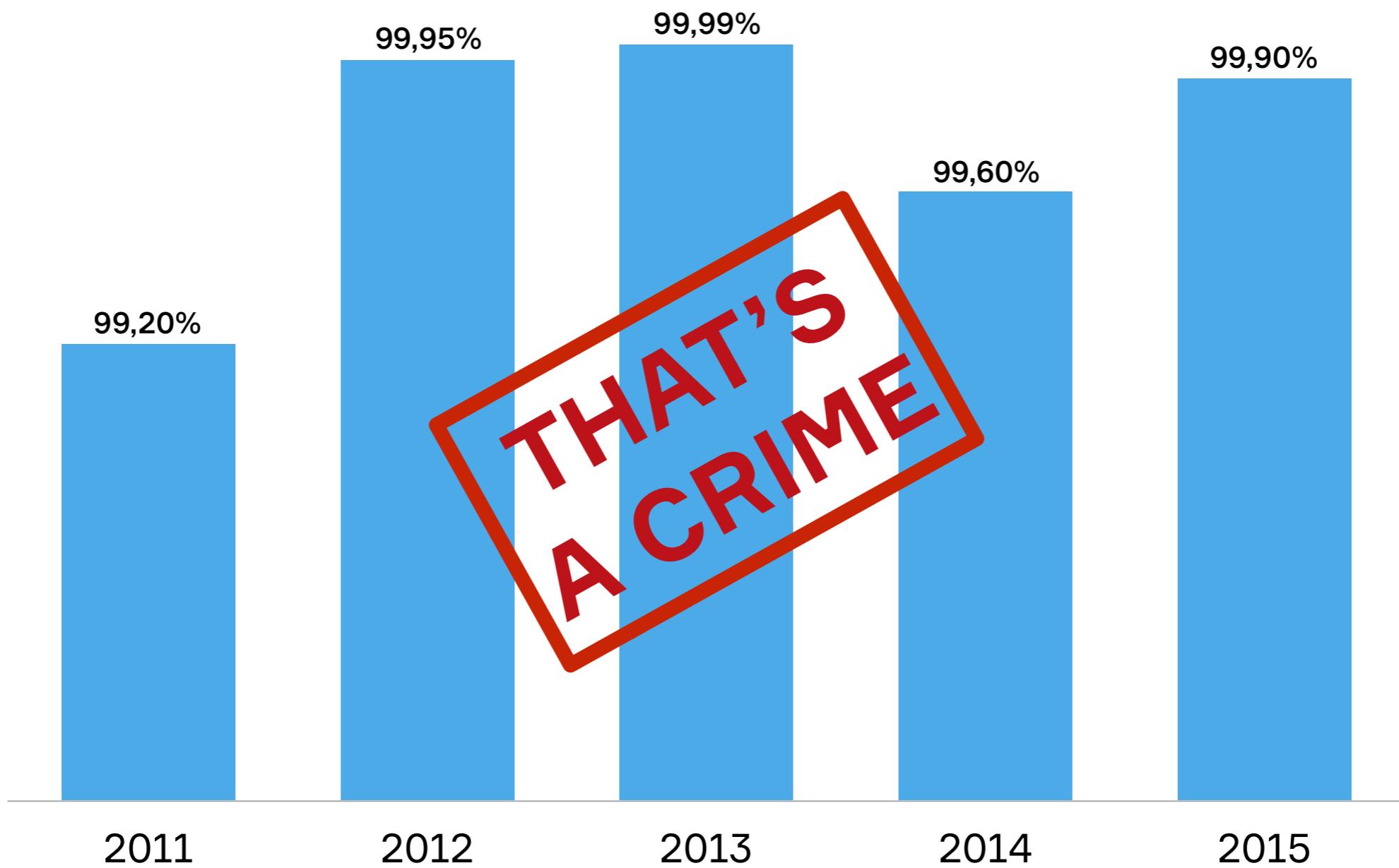
Server Uptime



Server Uptime



Server Uptime



4

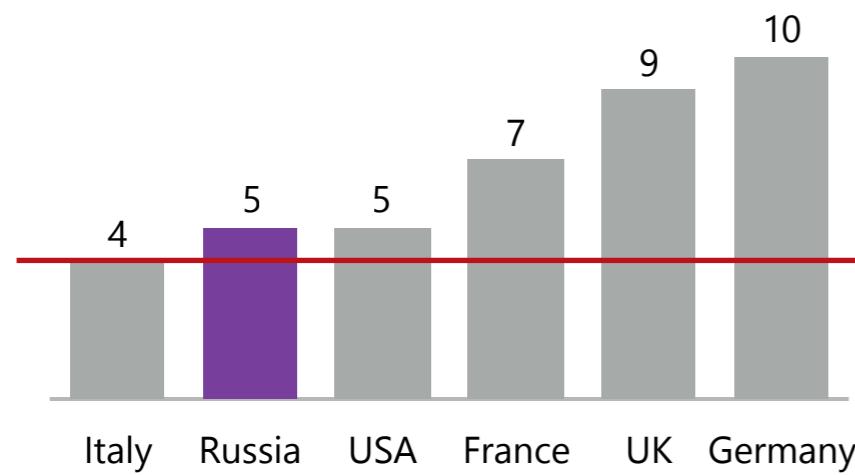
Try to make multiple
charts comparable

—

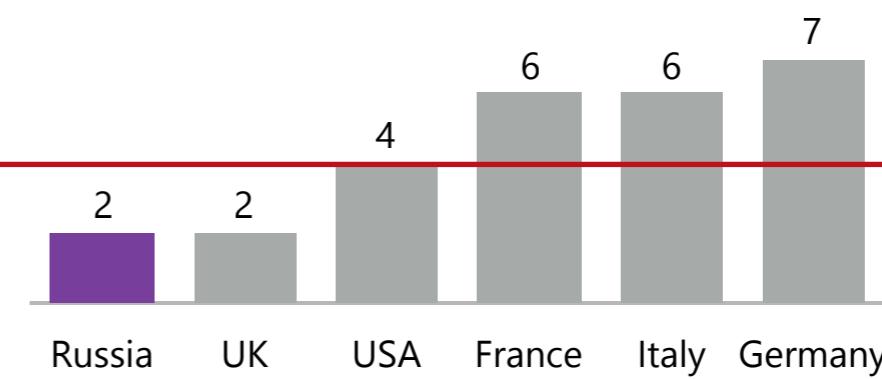
Russia is lags behind in most product categories

Yearly consumption, kg per capita

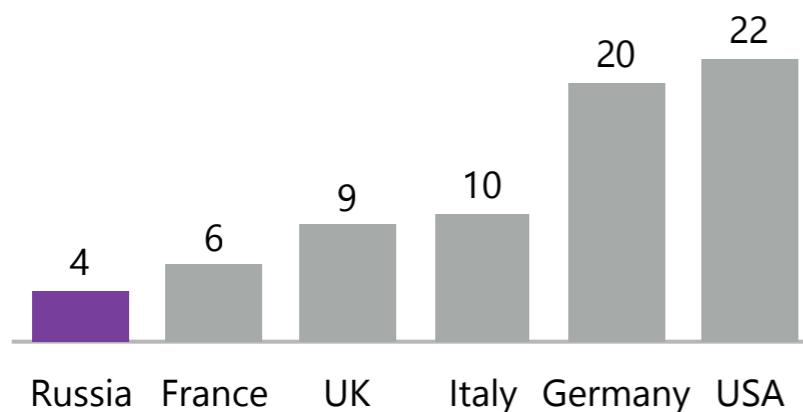
CHOCOLATE



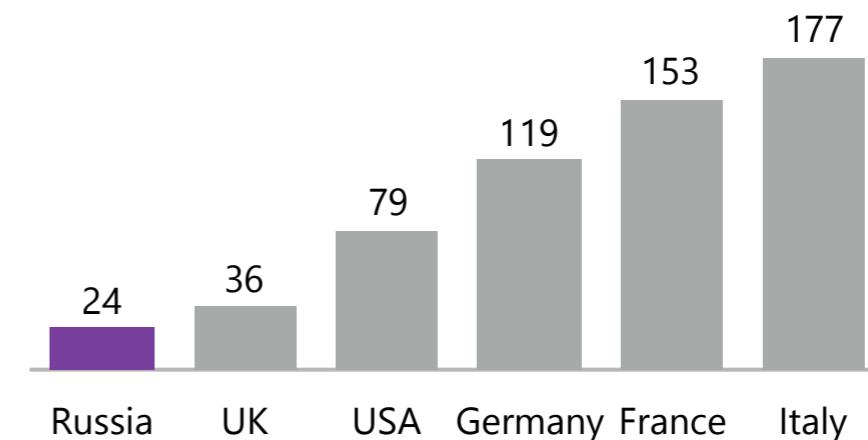
COFFEE



ICE-CREAM



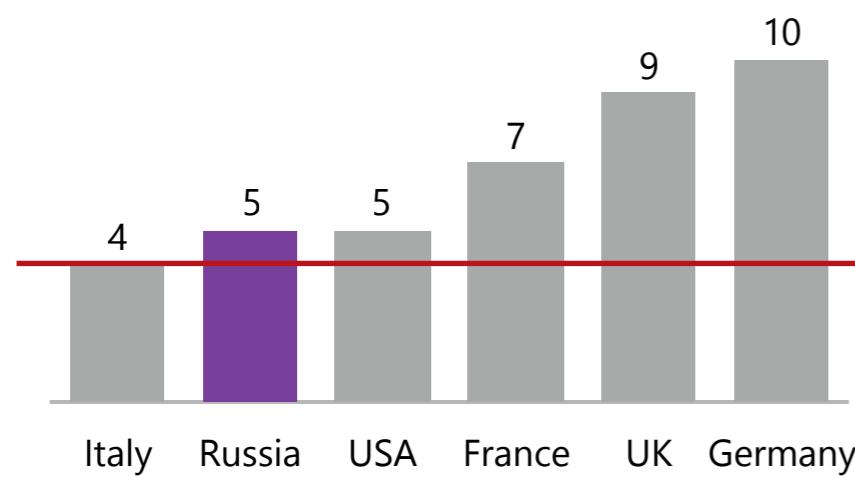
BOTTLED WATER



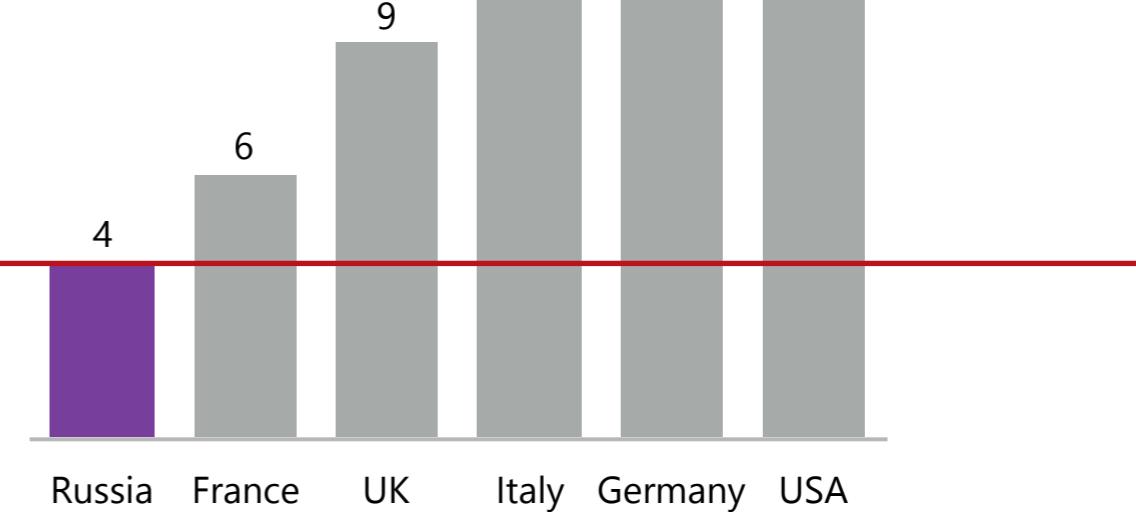
Russia is lags behind in most product categories

Yearly consumption, kg per capita

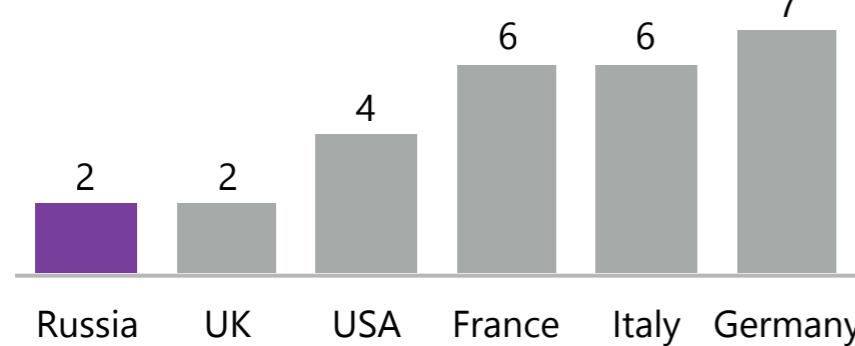
CHOCOLATE



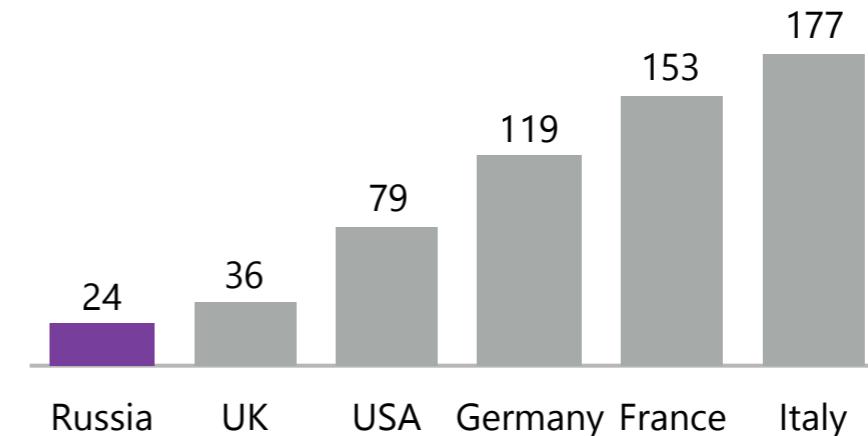
ICE-CREAM



COFFEE



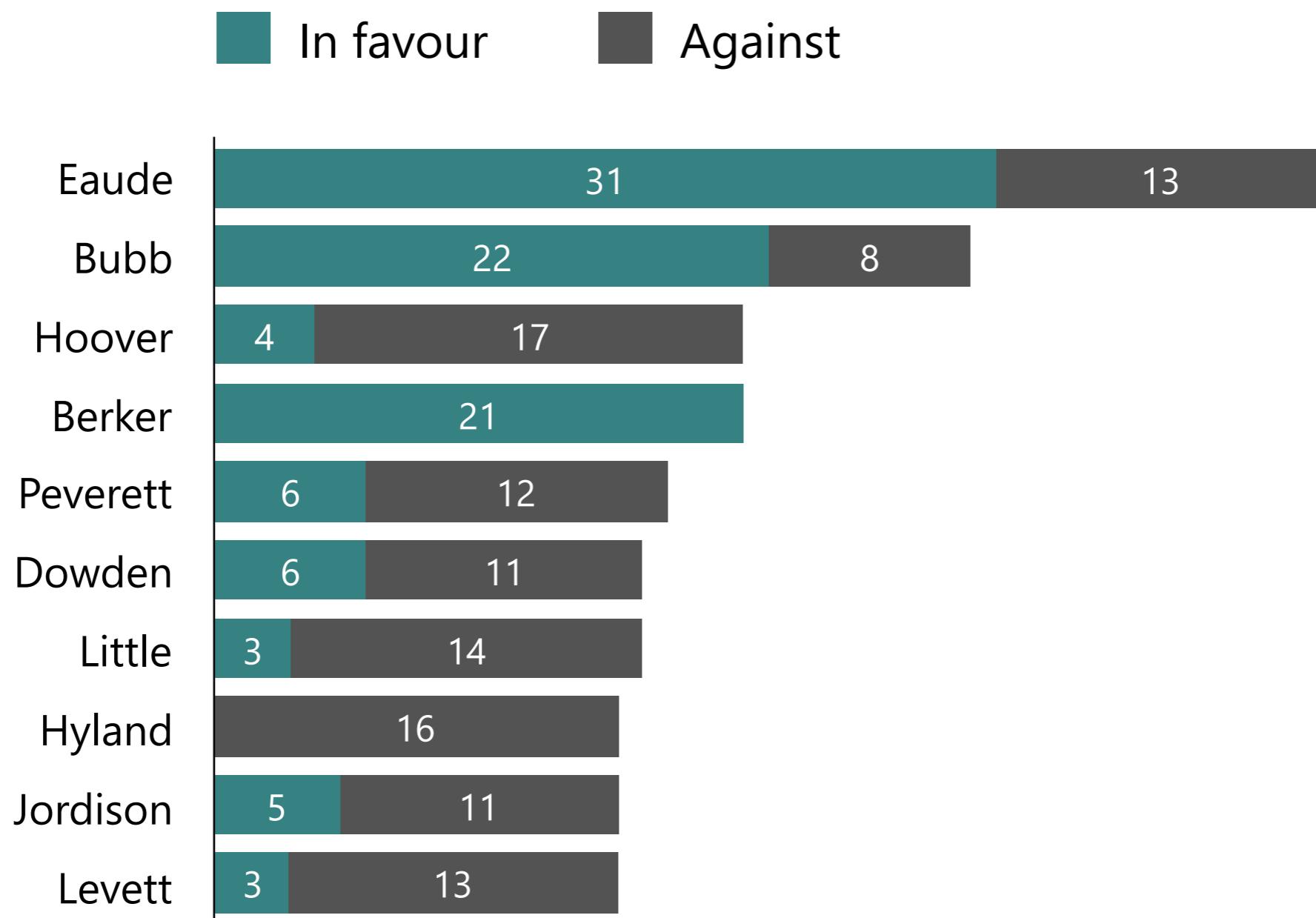
BOTTLED WATER



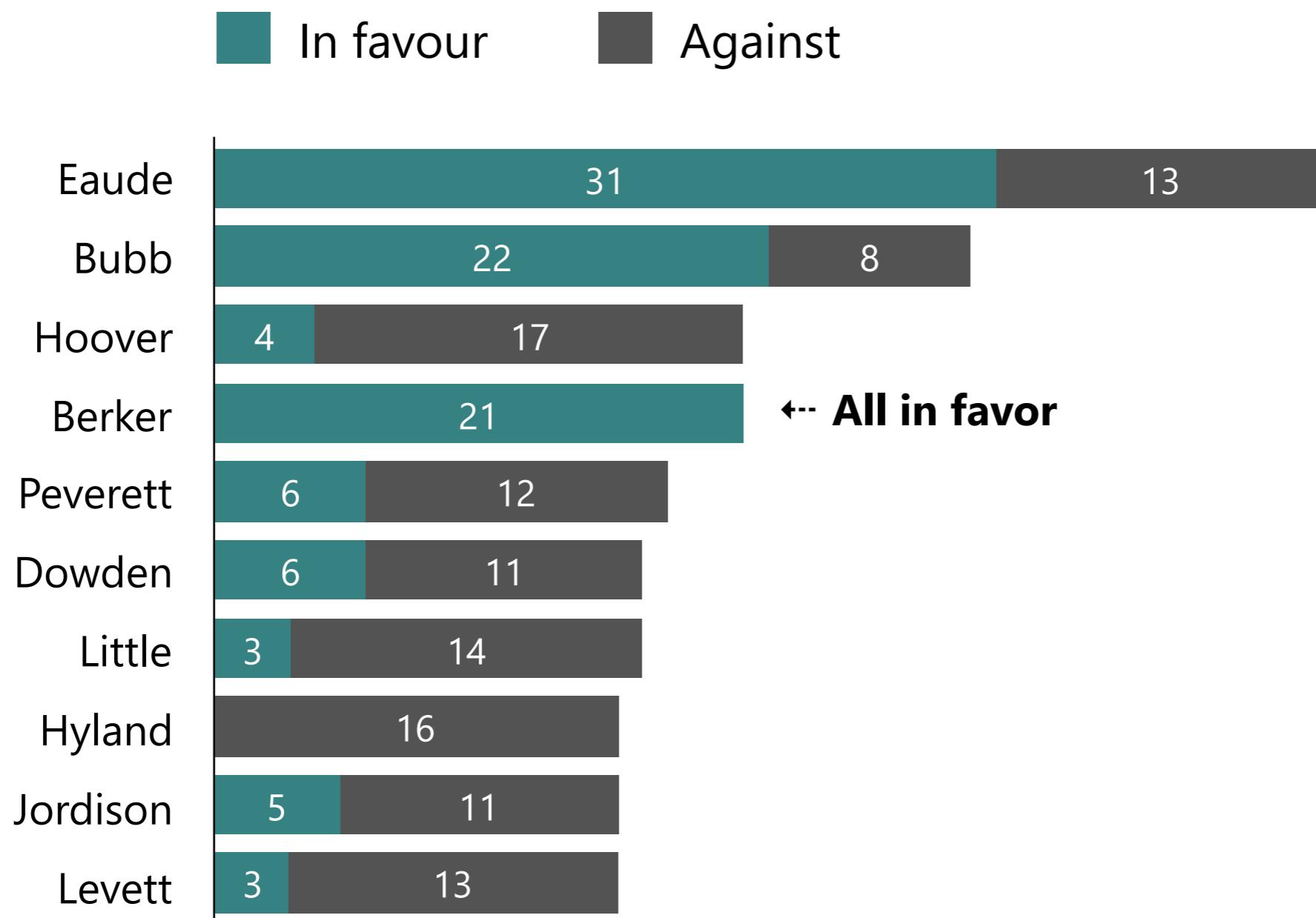
5

Don't use stacked
charts for trends

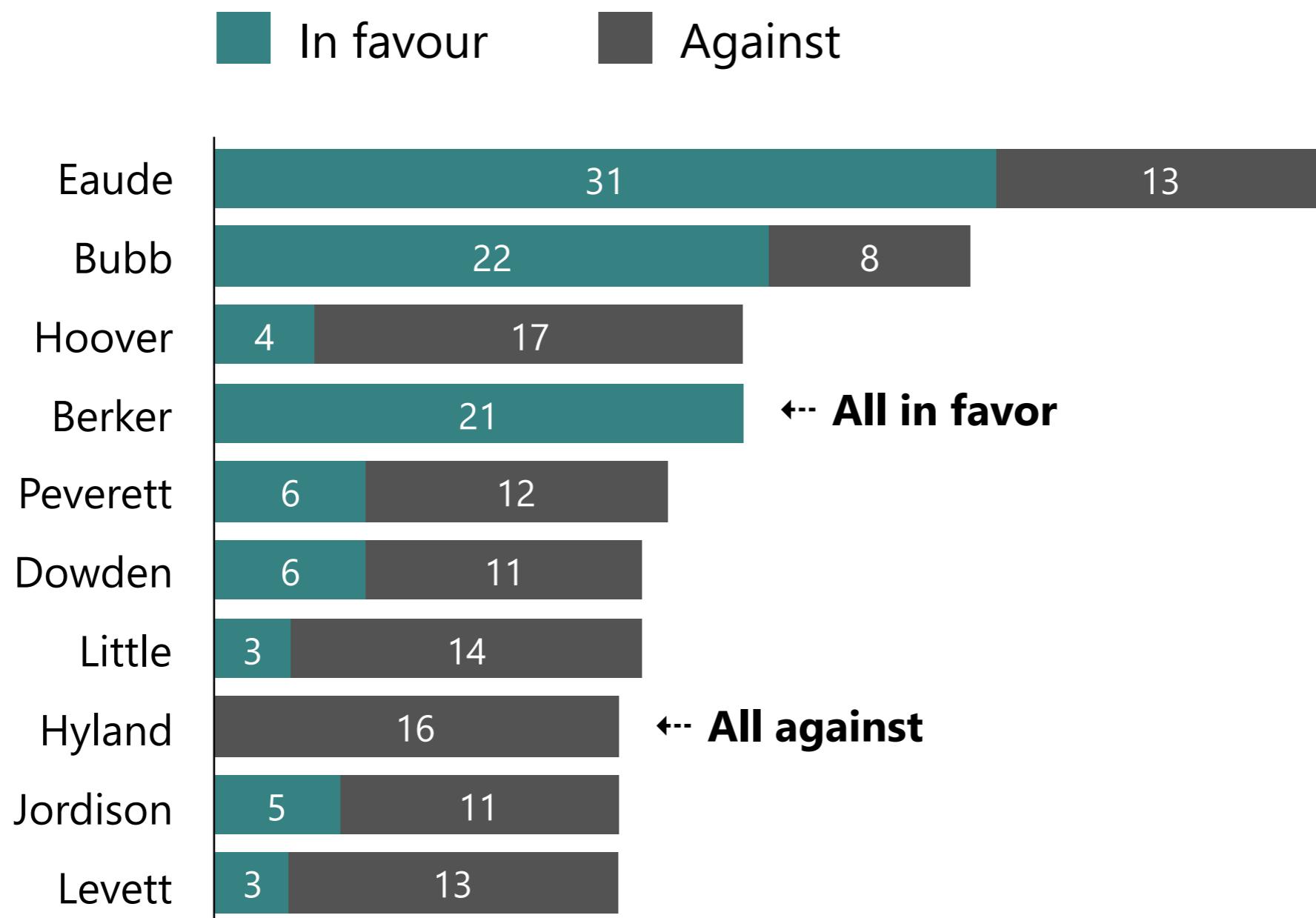
Judges' decisions in favor and against the defendants



Judges' decisions in favor and against the defendants



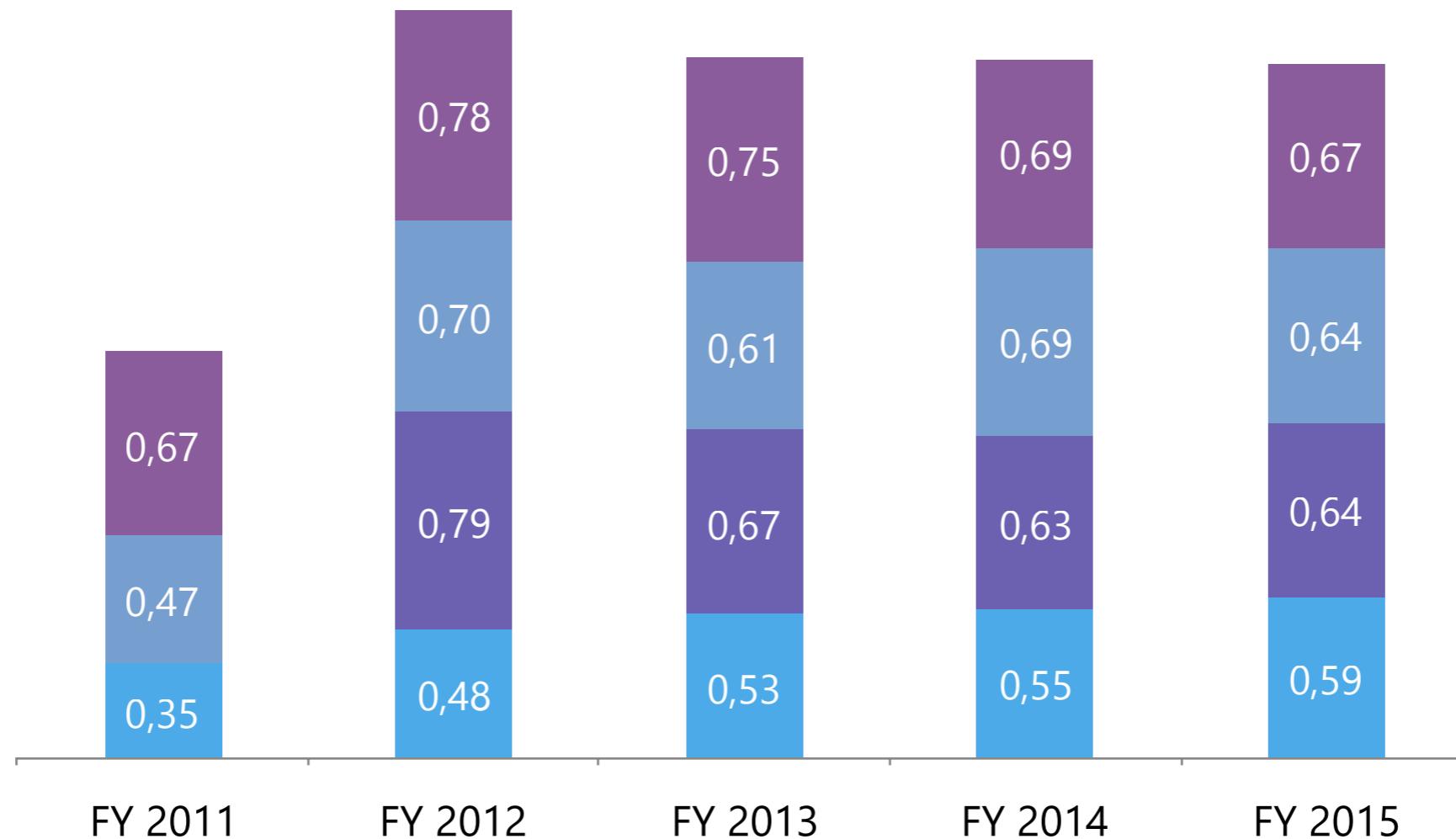
Judges' decisions in favor and against the defendants



Patent Application Initiatives

Information Security and Cryptography Applications

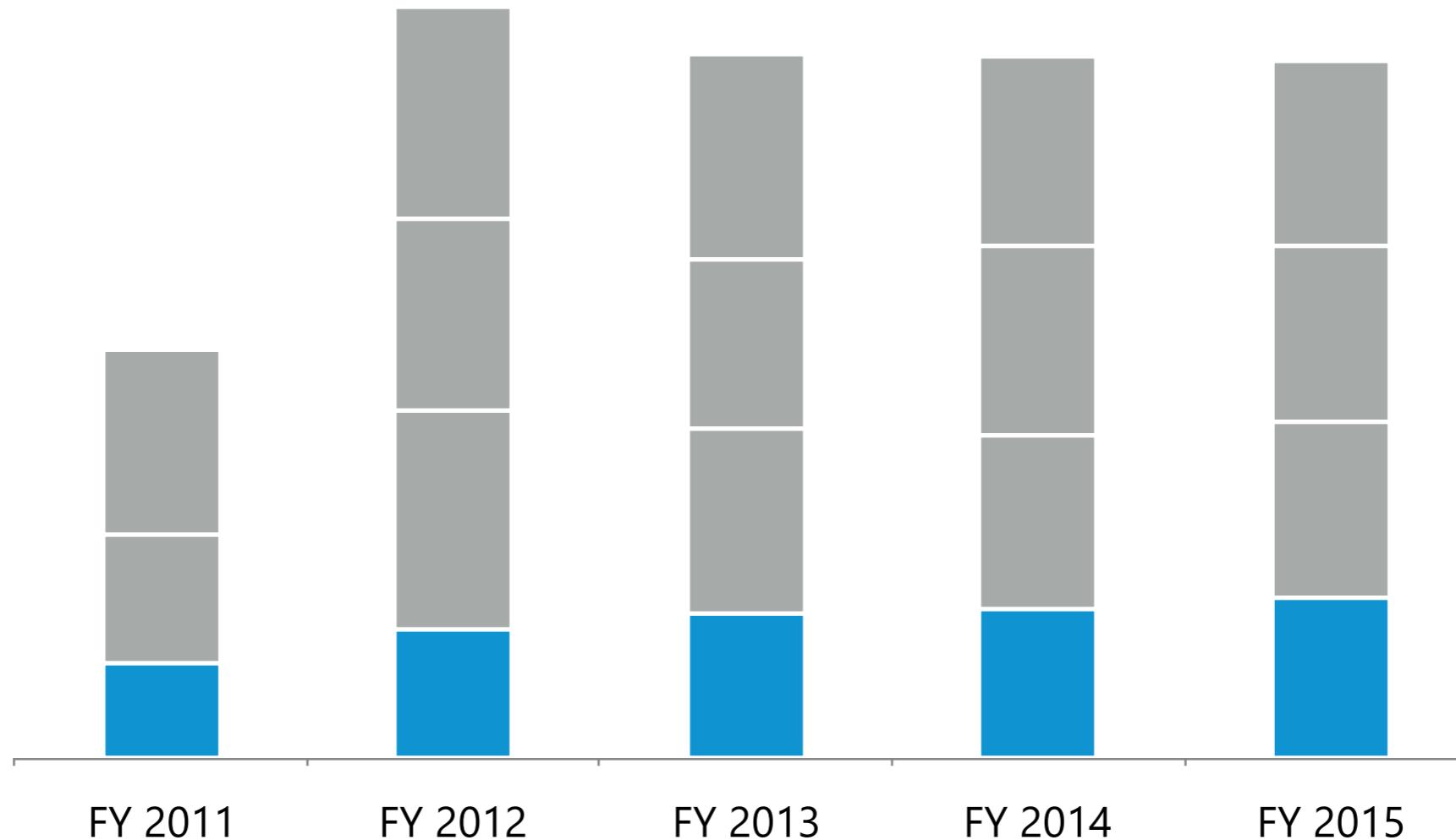
- █ AE
- █ PPH
- █ Track One
- █ All (including regular)



Patent Application Initiatives

Information Security and Cryptography Applications

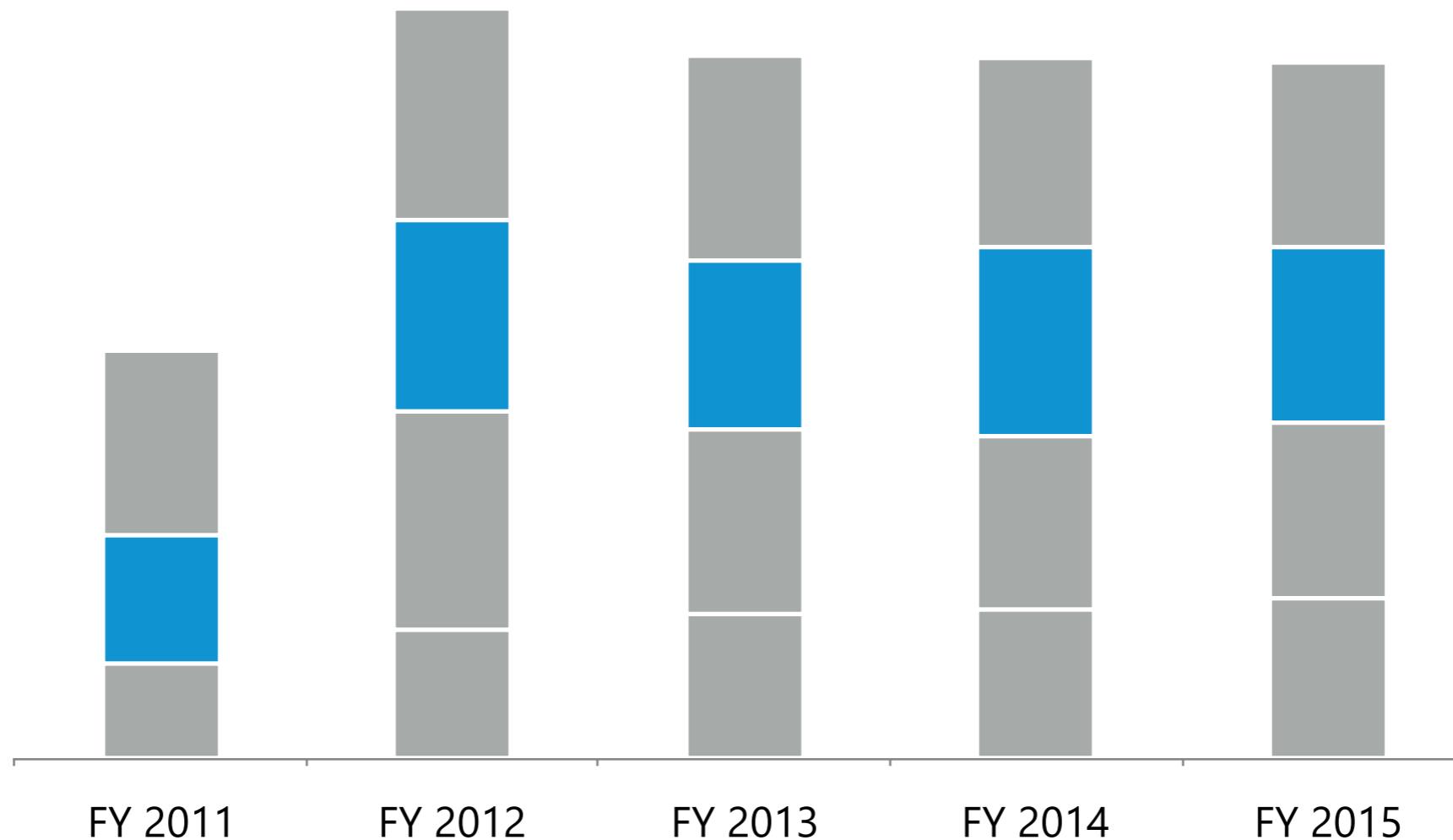
- AE
- PPH
- Track One
- All (including regular)



Patent Application Initiatives

Information Security and Cryptography Applications

- AE
- PPH
- Track One
- All (including regular)



— *If you have —*

5+ DATA POINTS

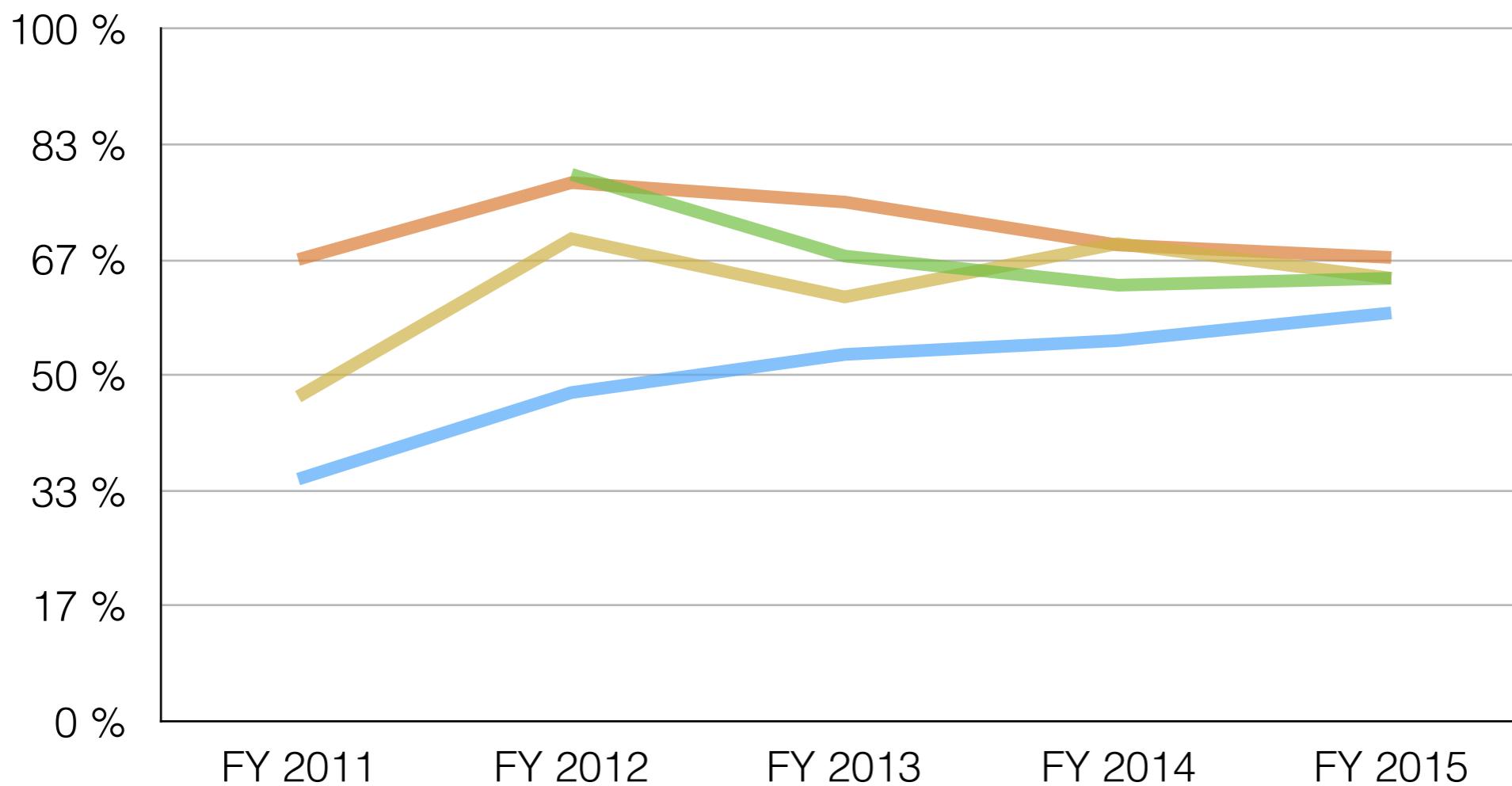
— *consider a —*

LINE CHART

Patent Application Initiatives

Information Security and Cryptography Applications

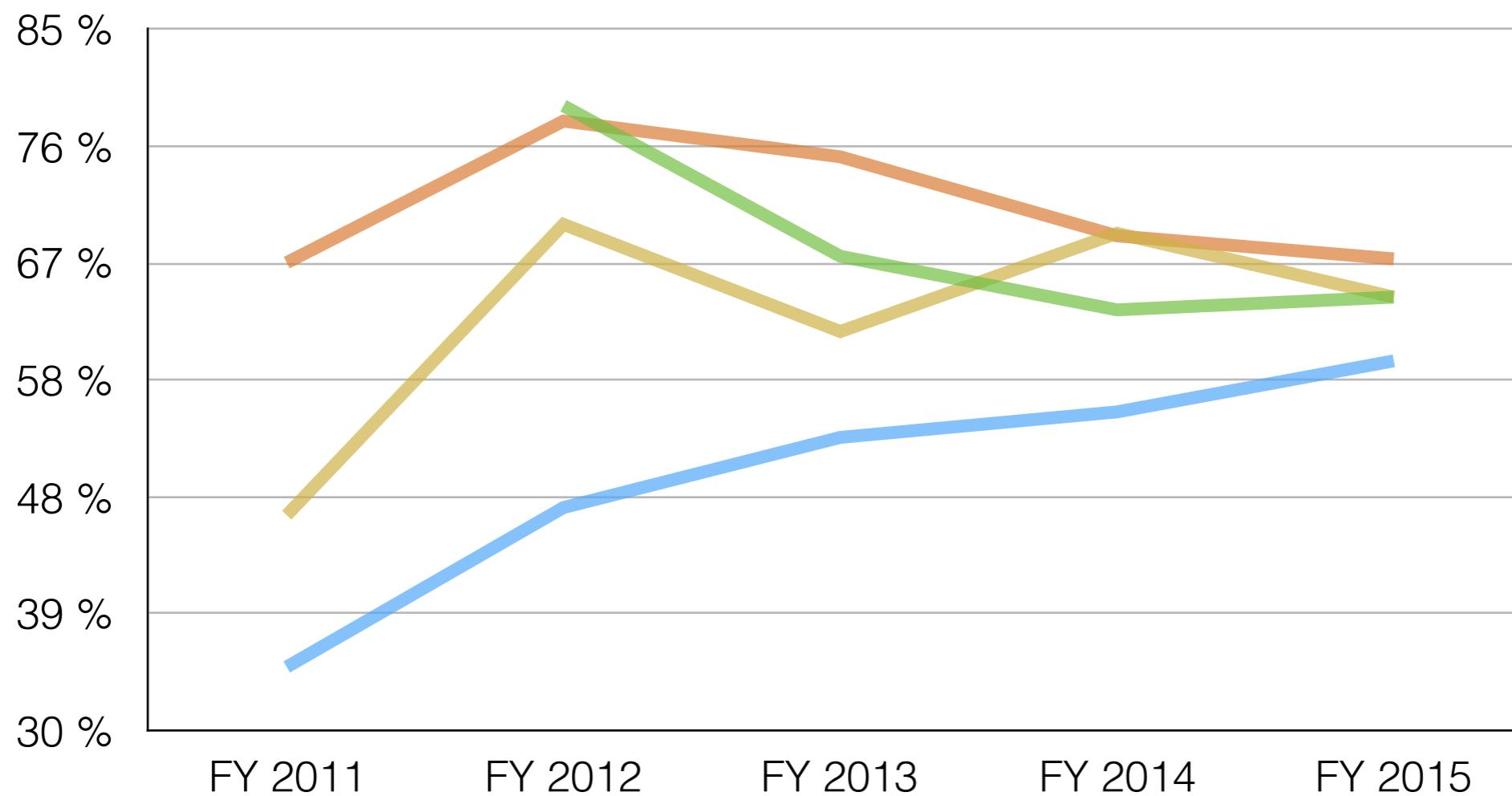
- All (including regular)
- Track One
- PPH
- AE



Patent Application Initiatives

Information Security and Cryptography Applications

- All (including regular)
- Track One
- PPH
- AE



Bar charts

Bar charts

- Bar and column charts are the same

Bar charts

- Bar and column charts are the same
- Sort and help to make decisions

Bar charts

- Bar and column charts are the same
- Sort and help to make decisions
- The Y axis starts at zero by default

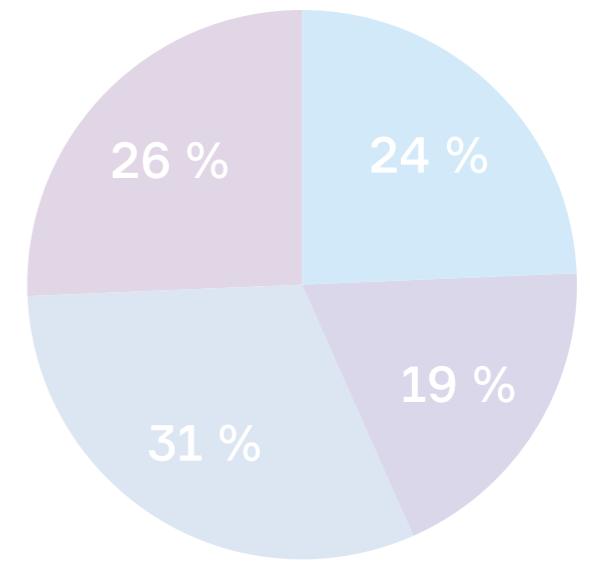
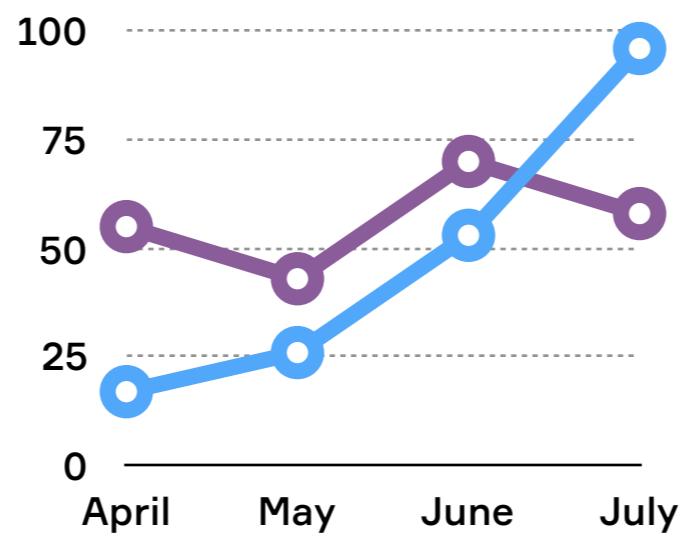
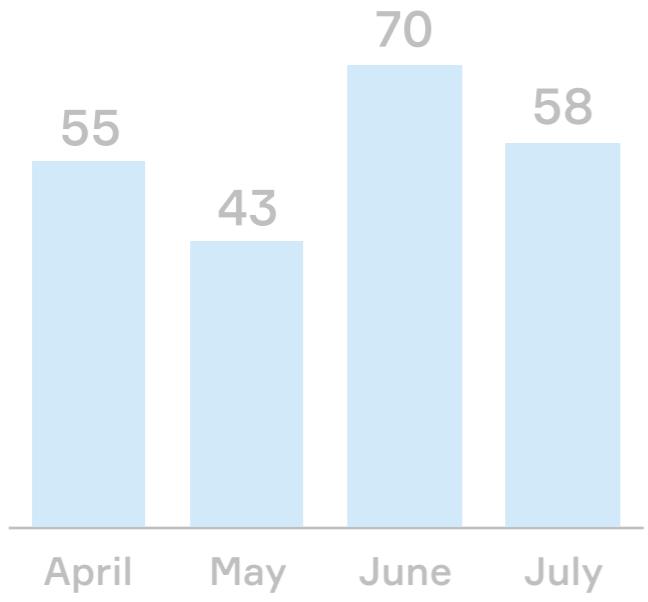
Bar charts

- Bar and column charts are the same
- Sort and help to make decisions
- The Y axis starts at zero by default
- Do you need the second axis?

Bar charts

- Bar and column charts are the same
- Sort and help to make decisions
- The Y axis starts at zero by default
- Do you need the second axis?
- Don't use stacked bars for trends

Line charts

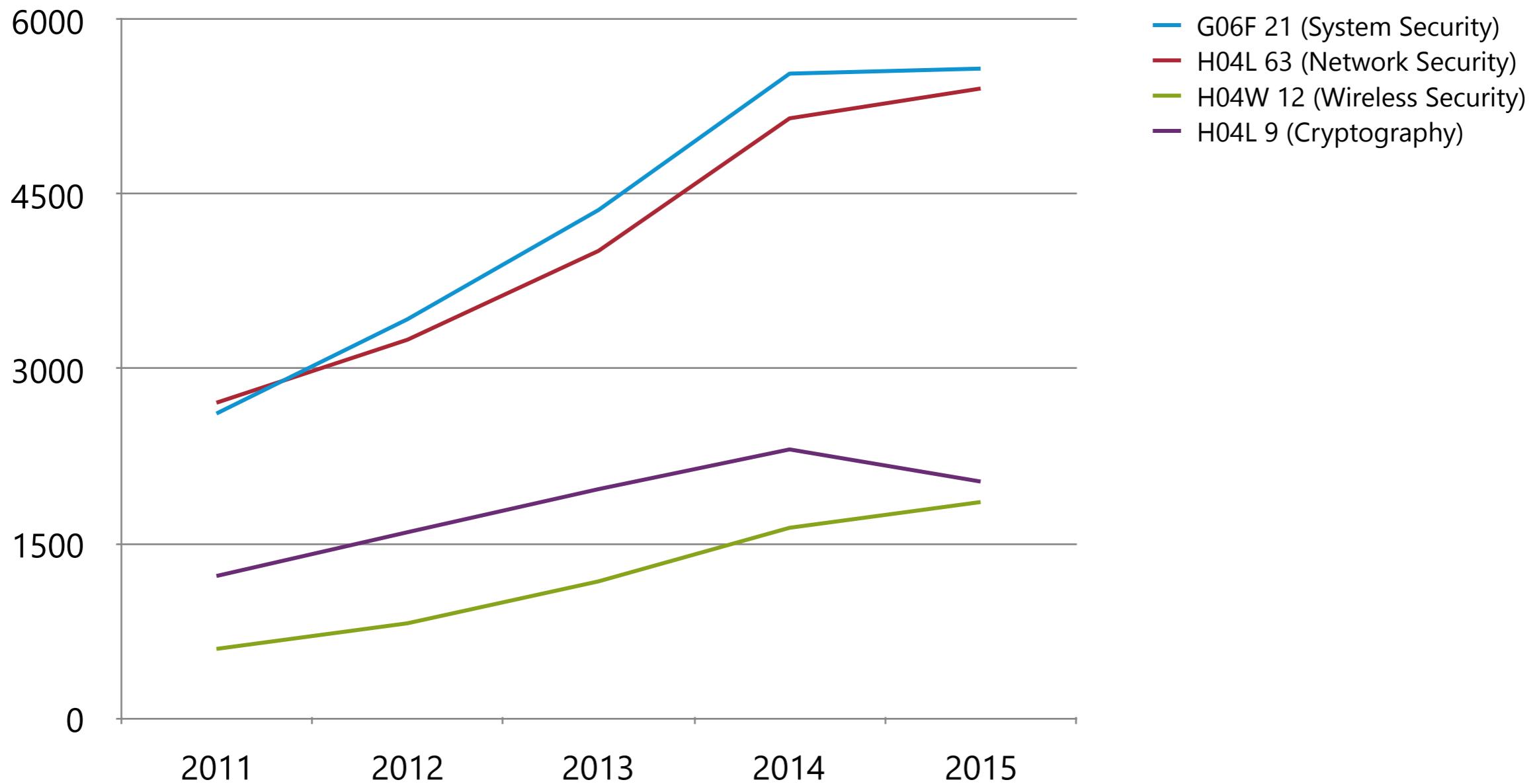


1

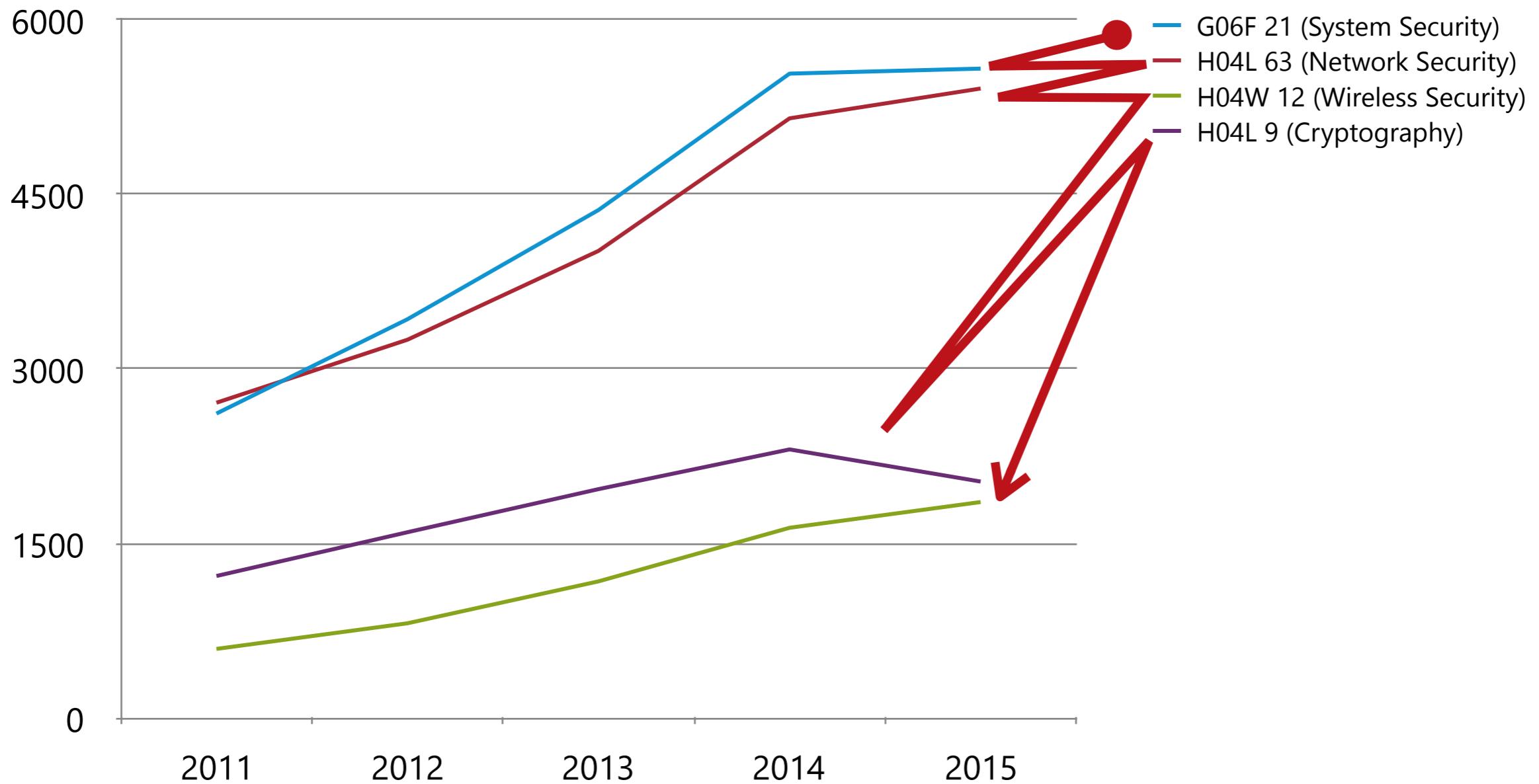
Try to avoid
the legend

—

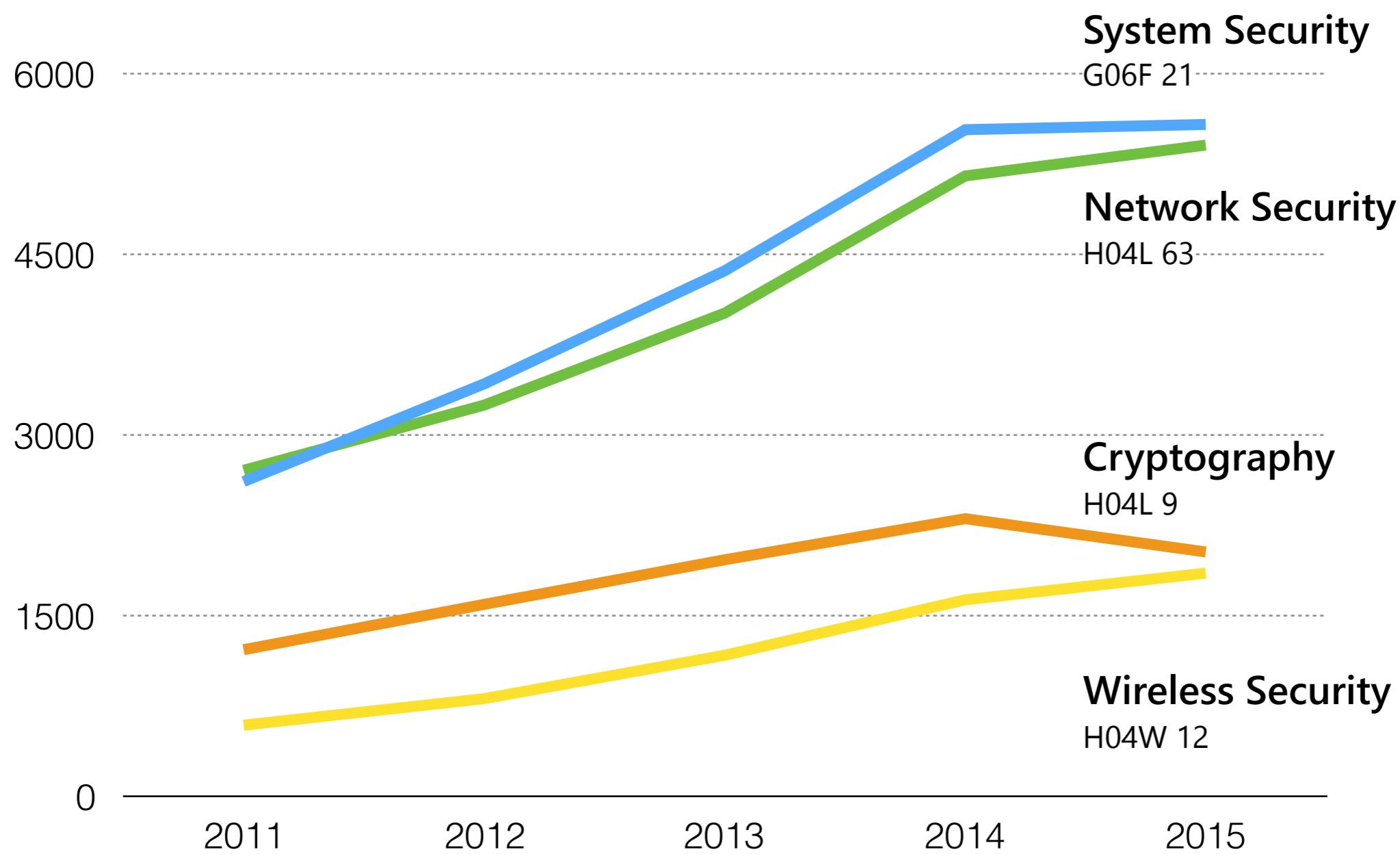
Patents issued by year designating a Computer/ Network Security Inventive Classification



Patents issued by year designating a Computer/ Network Security Inventive Classification



Patents issued by year designating a Computer/ Network Security Inventive Classification



2

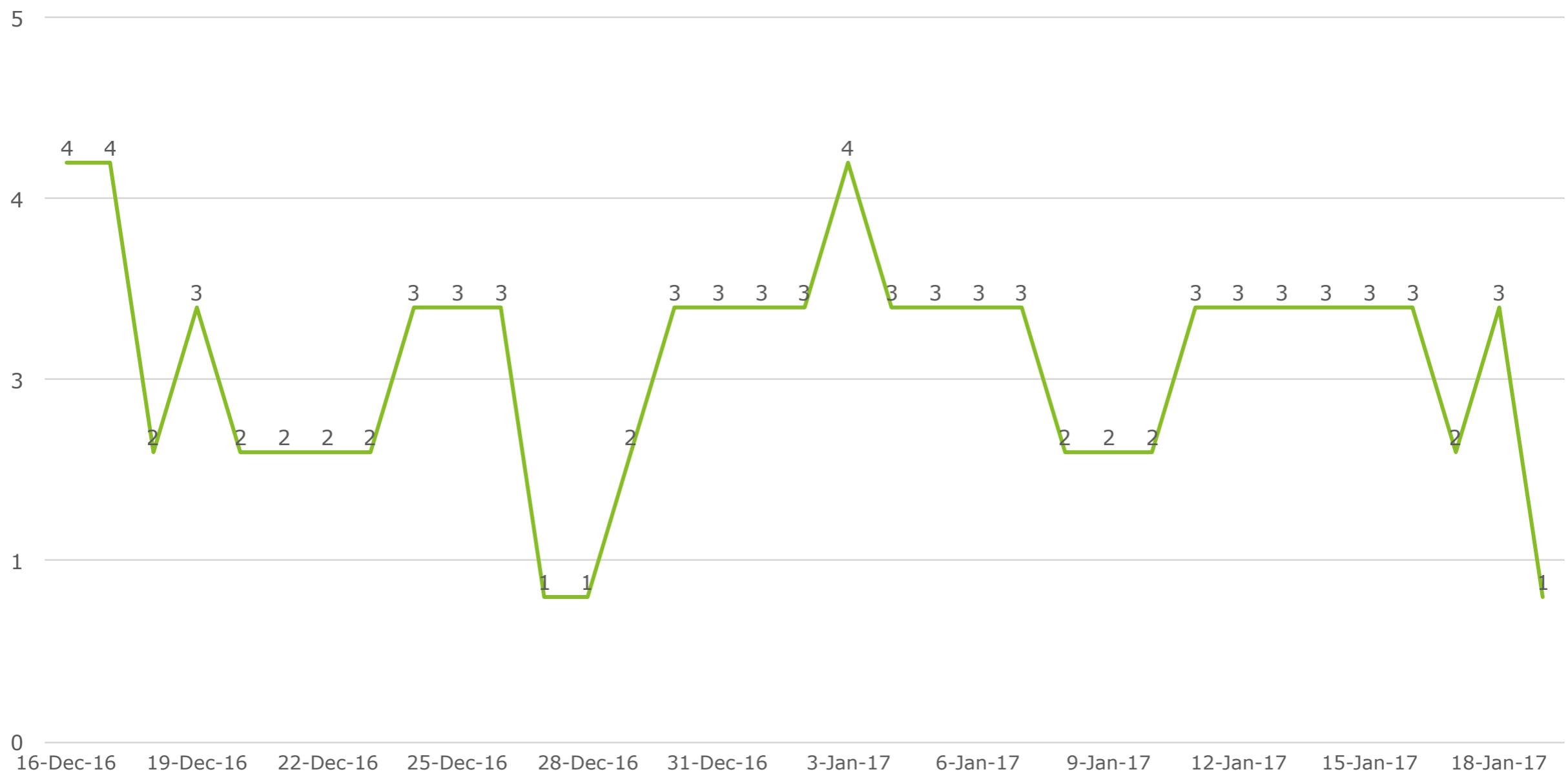
It's all about
the trend

RIBridges Technical Metrics – P2 Incident Report

Friday January 20th, 2017 (10:00 AM EDT)

P2 Cumulative Incidents Open
by Day

P2s Open



RIBridges Technical Metrics – P2 Incident Report

Friday January 20th, 2017 (10:00 AM EDT)

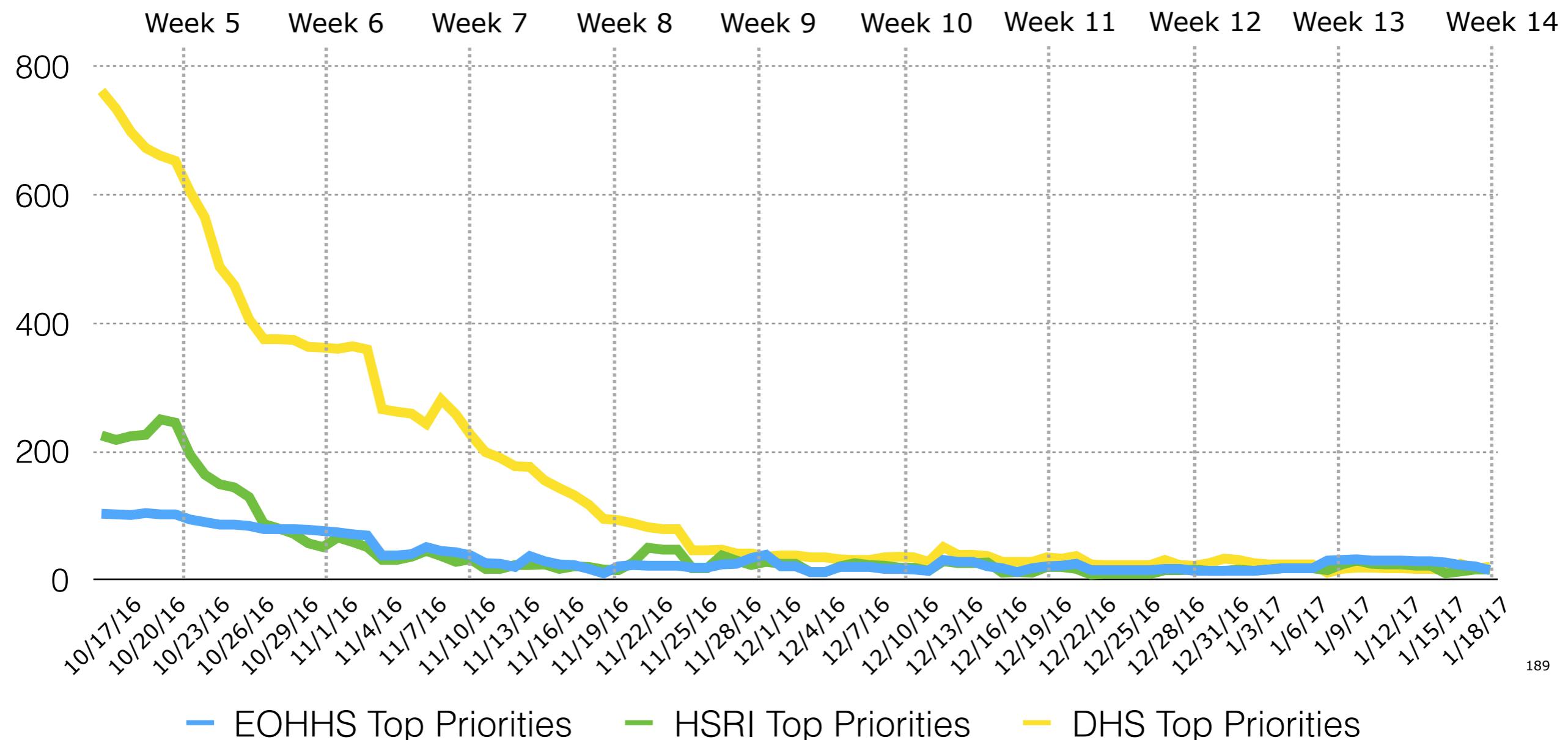
P2 Cumulative Incidents Open
by Day



RIBridges Technical Metrics – Agency Priority 3 Incidents (P3 Blockers)

Friday January 20th, 2017 (10:00 AM EDT)

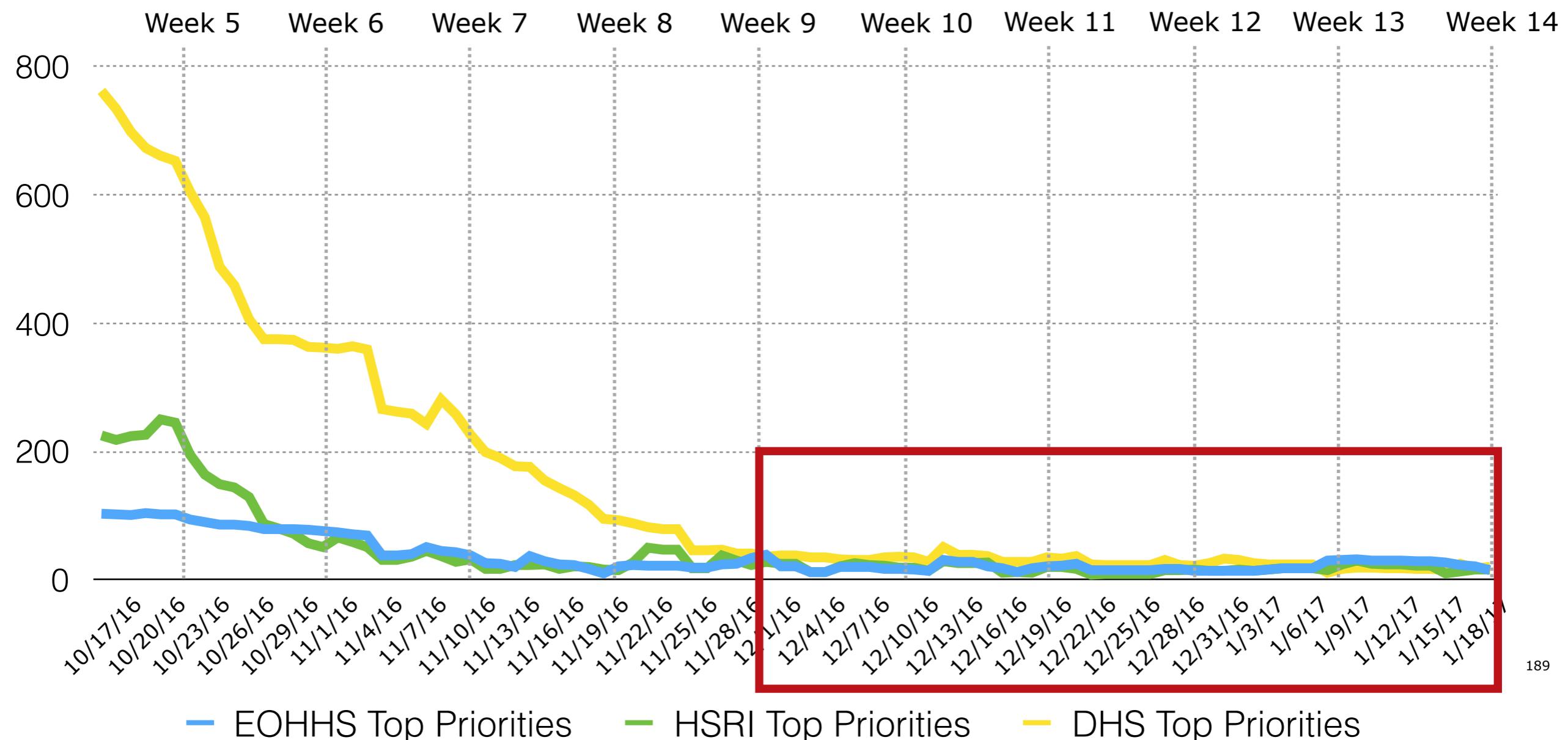
Total Priority 3 Blocker* Incidents Open by Day



RIBridges Technical Metrics – Agency Priority 3 Incidents (P3 Blockers)

Friday January 20th, 2017 (10:00 AM EDT)

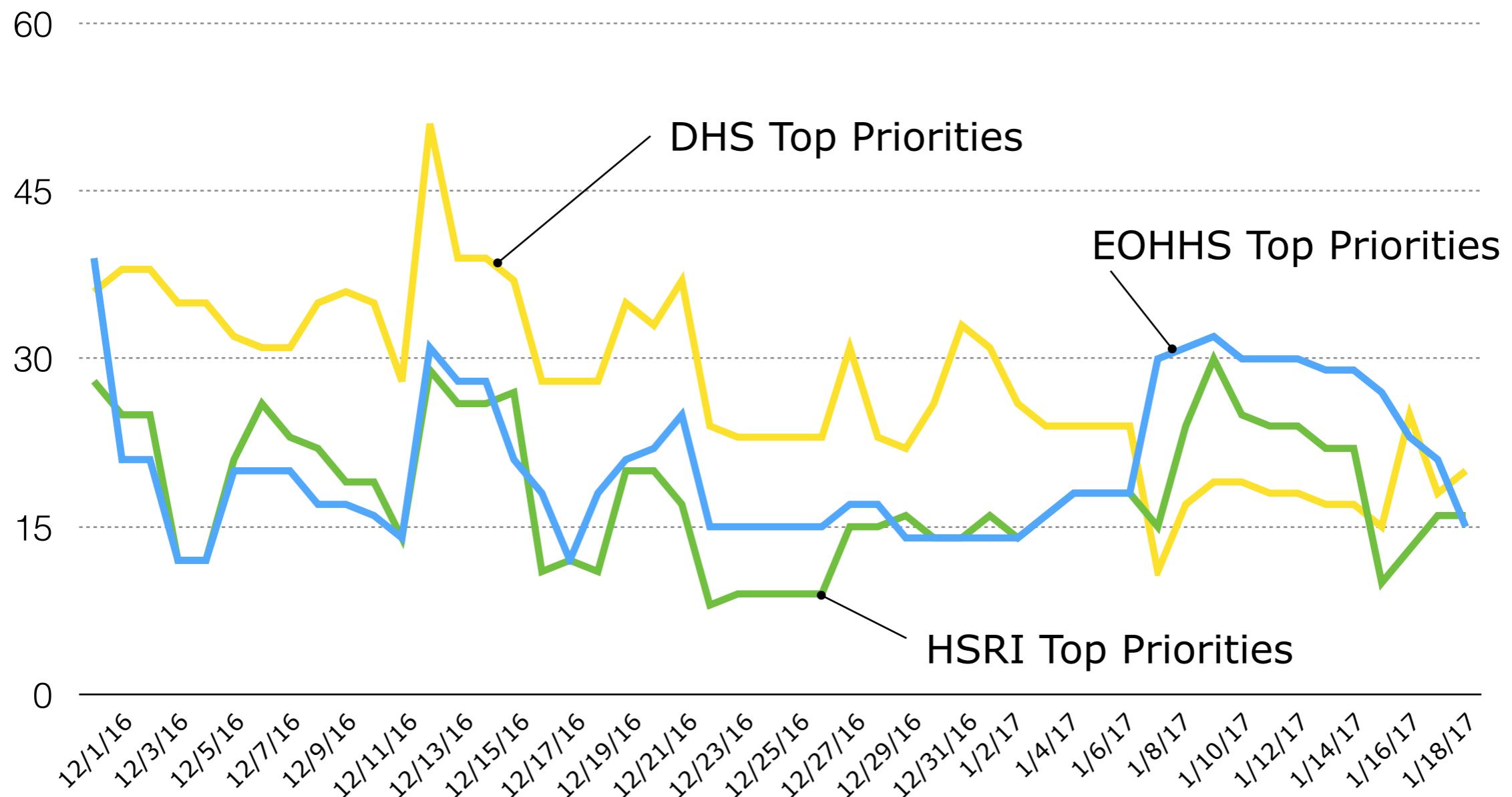
Total Priority 3 Blocker* Incidents Open by Day



RIBridges Technical Metrics – Agency Priority 3 Incidents (P3 Blockers)

Friday January 20th, 2017 (10:00 AM EDT)

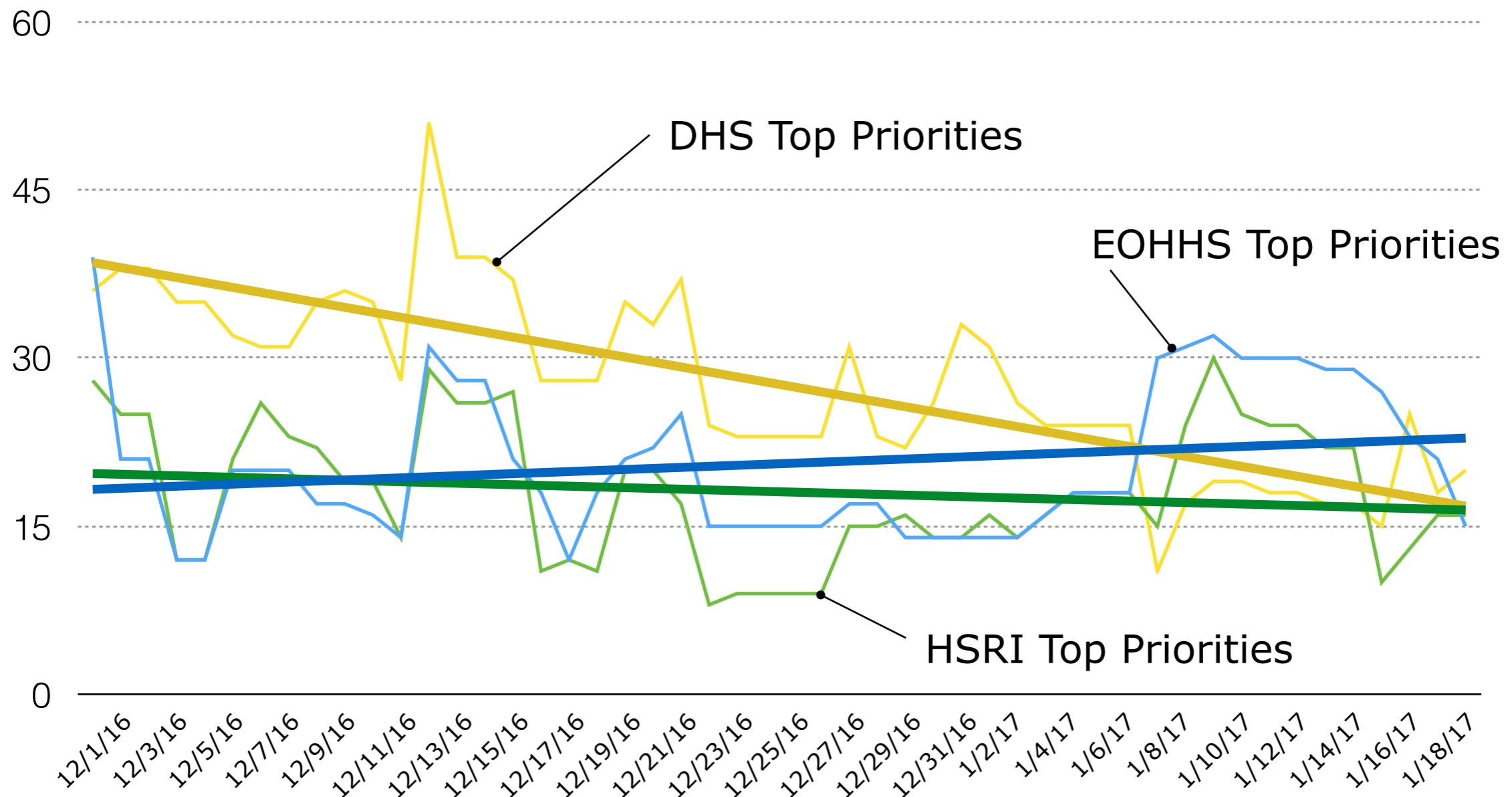
Total Priority 3 Blocker* Incidents Open
by Day



RIBridges Technical Metrics – Agency Priority 3 Incidents (P3 Blockers)

Friday January 20th, 2017 (10:00 AM EDT)

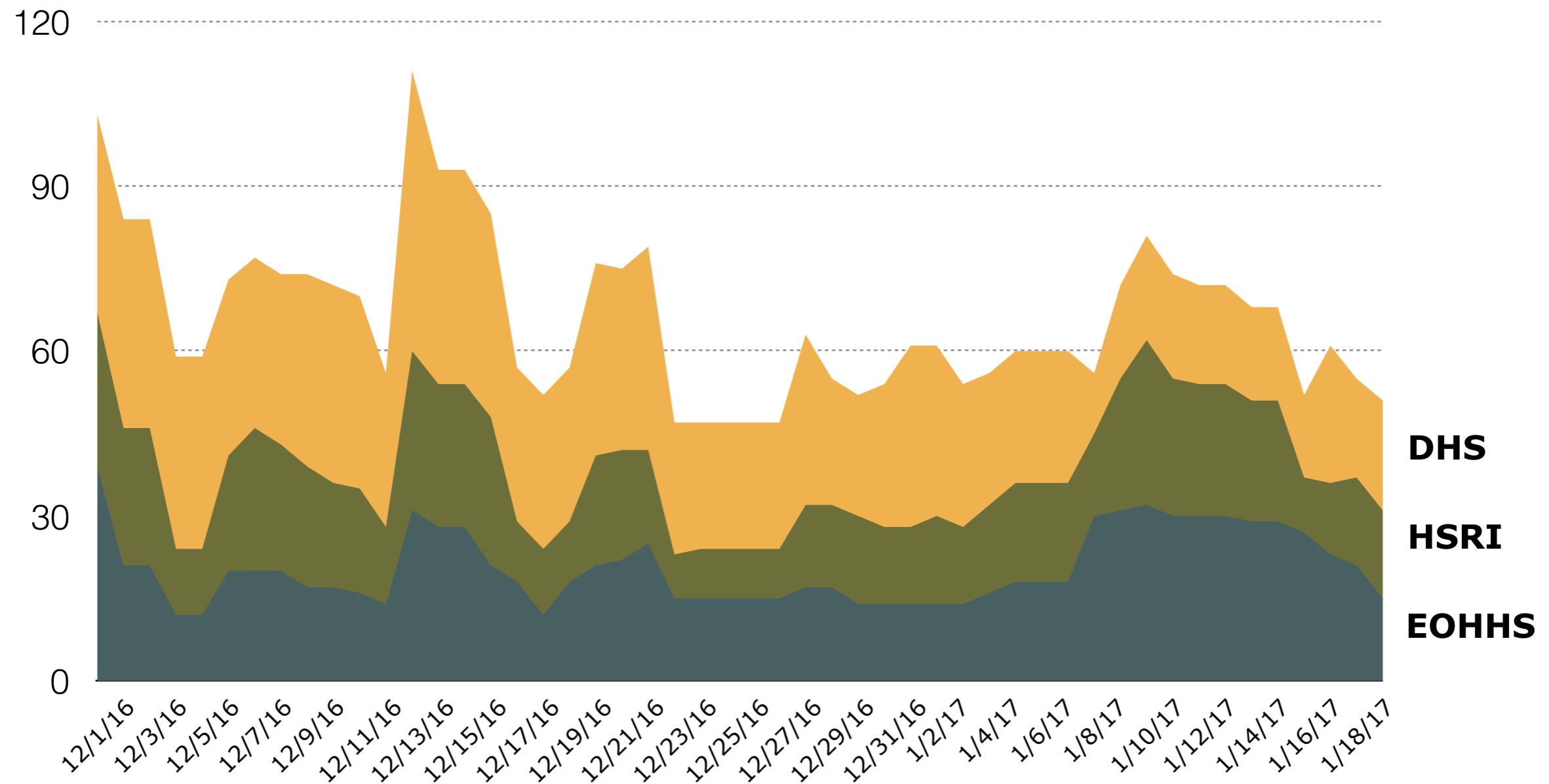
Total Priority 3 Blocker* Incidents Open by Day



RIBridges Technical Metrics – Agency Priority 3 Incidents (P3 Blockers)

Friday January 20th, 2017 (10:00 AM EDT)

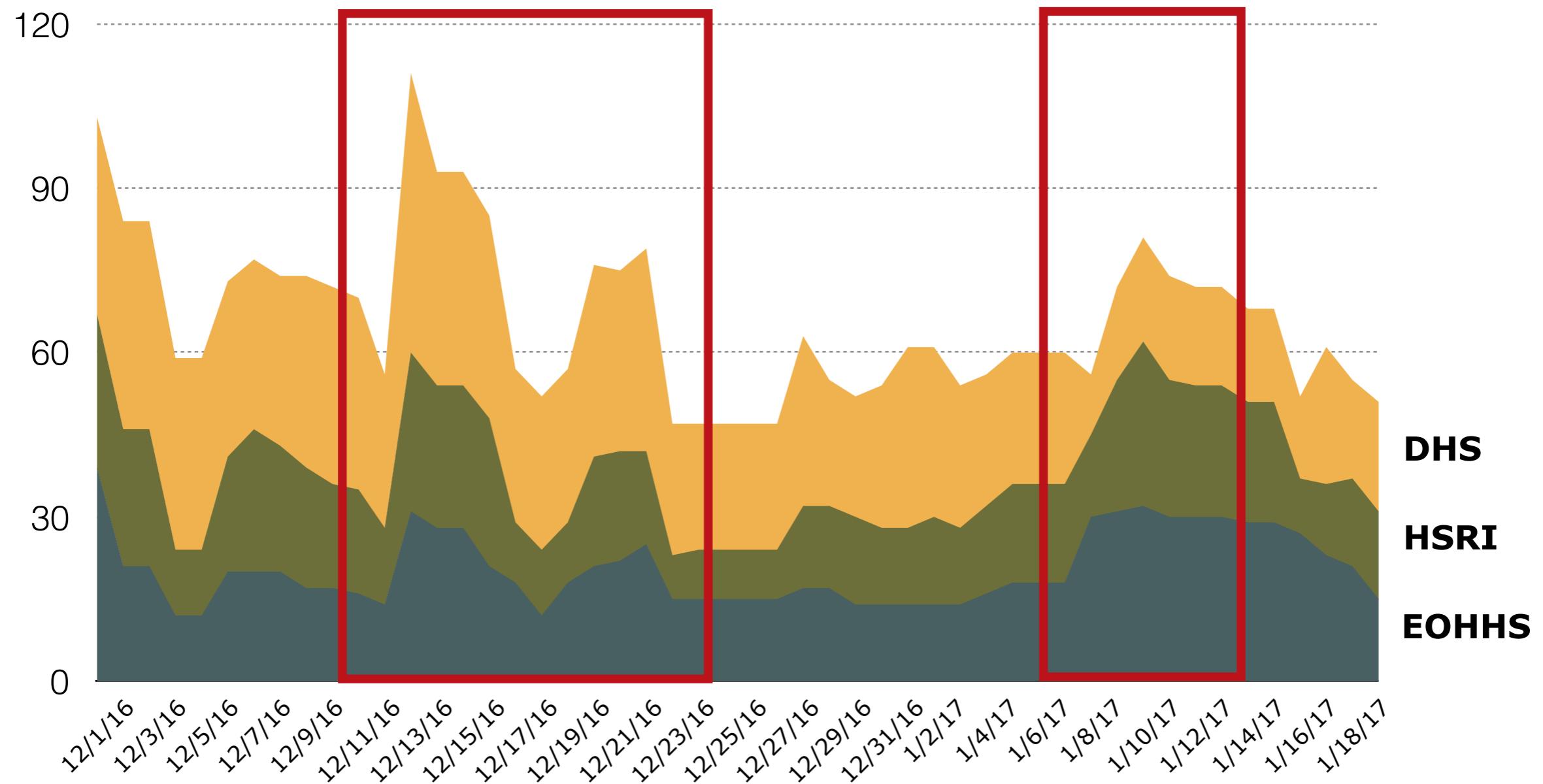
Total Priority 3 Blocker* Incidents Open
by Day



RIBridges Technical Metrics – Agency Priority 3 Incidents (P3 Blockers)

Friday January 20th, 2017 (10:00 AM EDT)

Total Priority 3 Blocker* Incidents Open
by Day

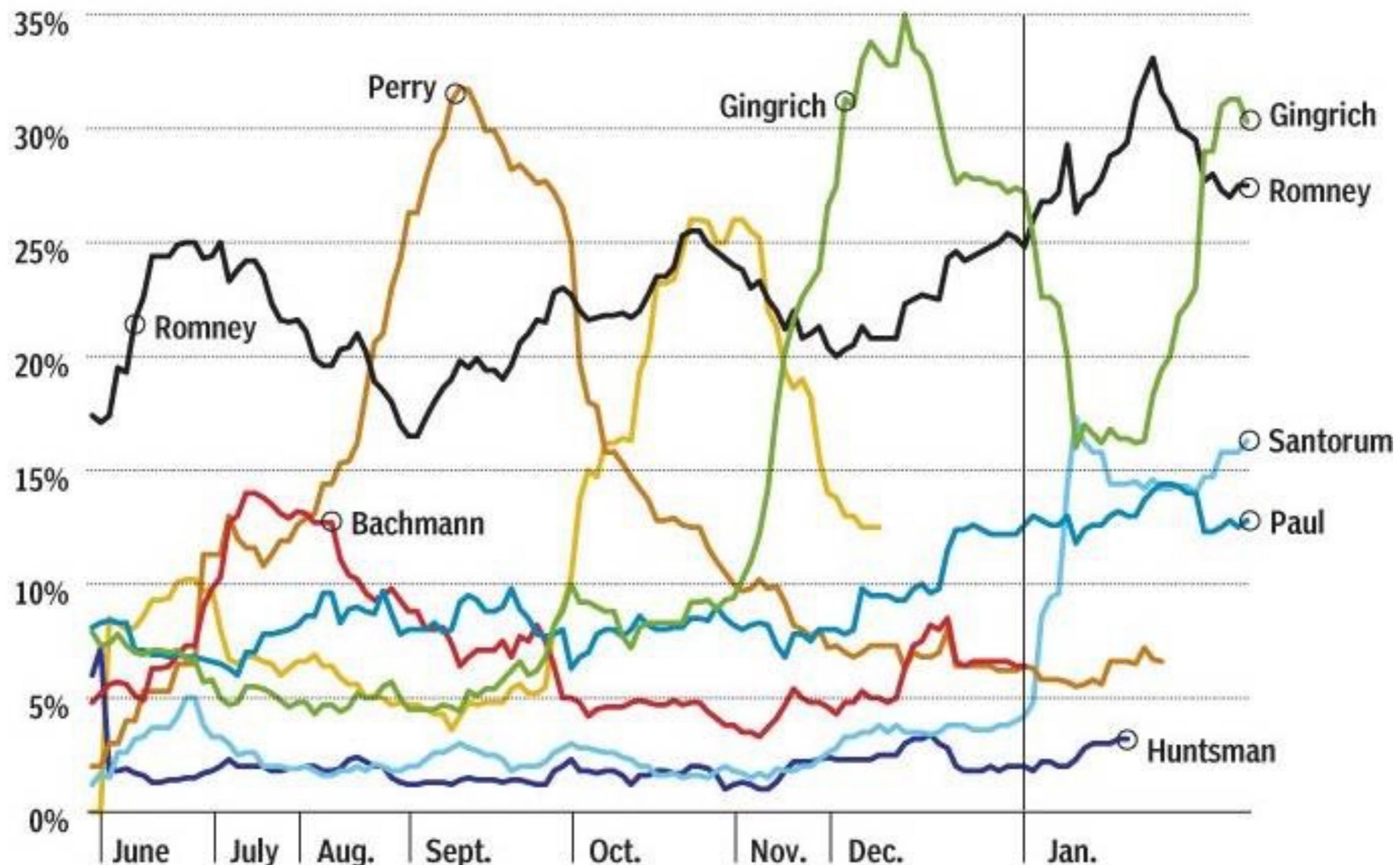


3

Make two graphs for
more than five lines

VOTER SUPPORT BY CANDIDATE

PERCENTAGE OF DECIDED VOTERS



ANIMATION
— *might help* —

RIBridges Technical Metrics – Agency Priority 3 Incidents (P3 Blockers)

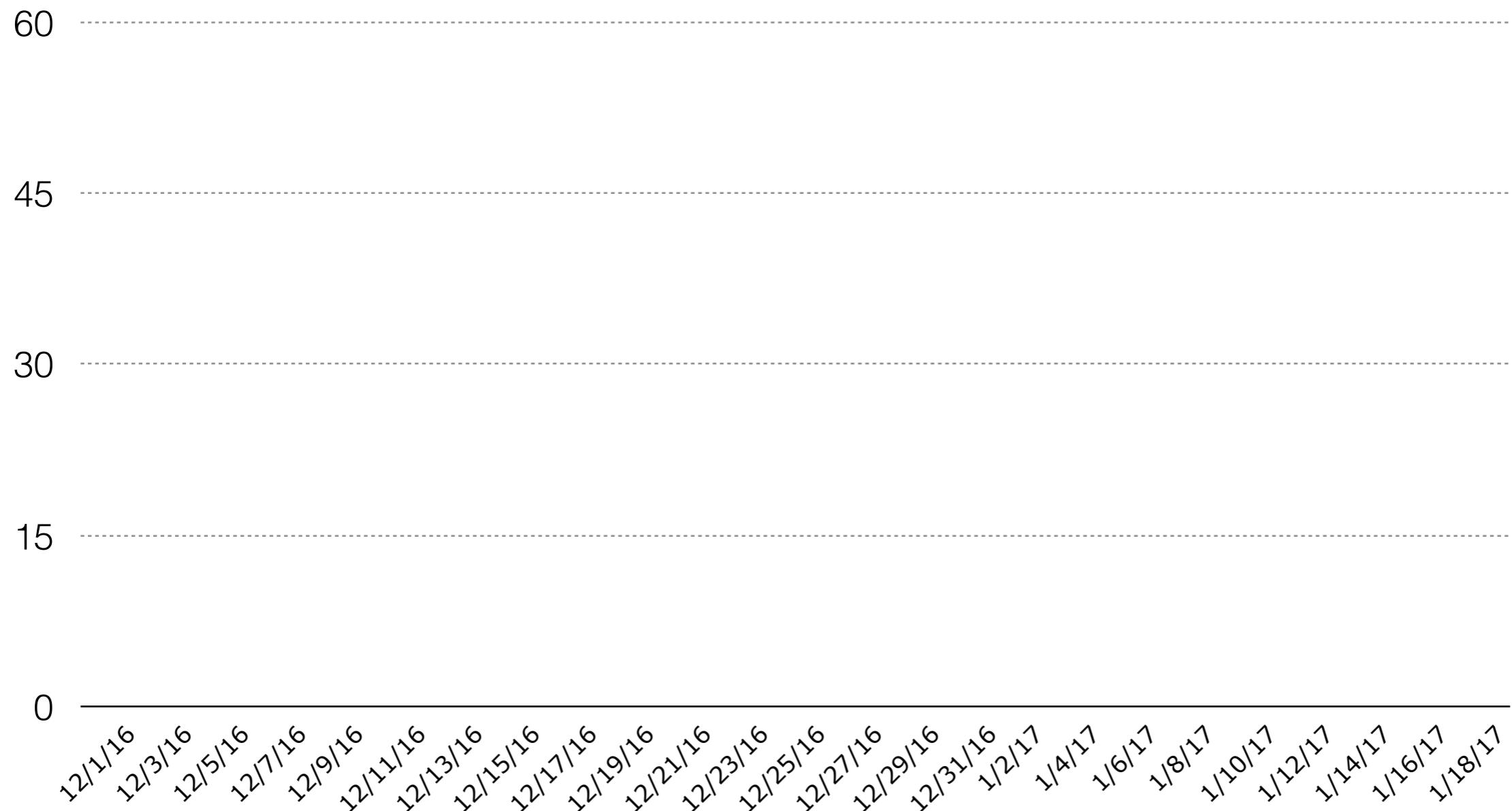
Friday January 20th, 2017 (10:00 AM EDT)

Total Priority 3 Blocker* Incidents Open
by Day

RIBridges Technical Metrics – Agency Priority 3 Incidents (P3 Blockers)

Friday January 20th, 2017 (10:00 AM EDT)

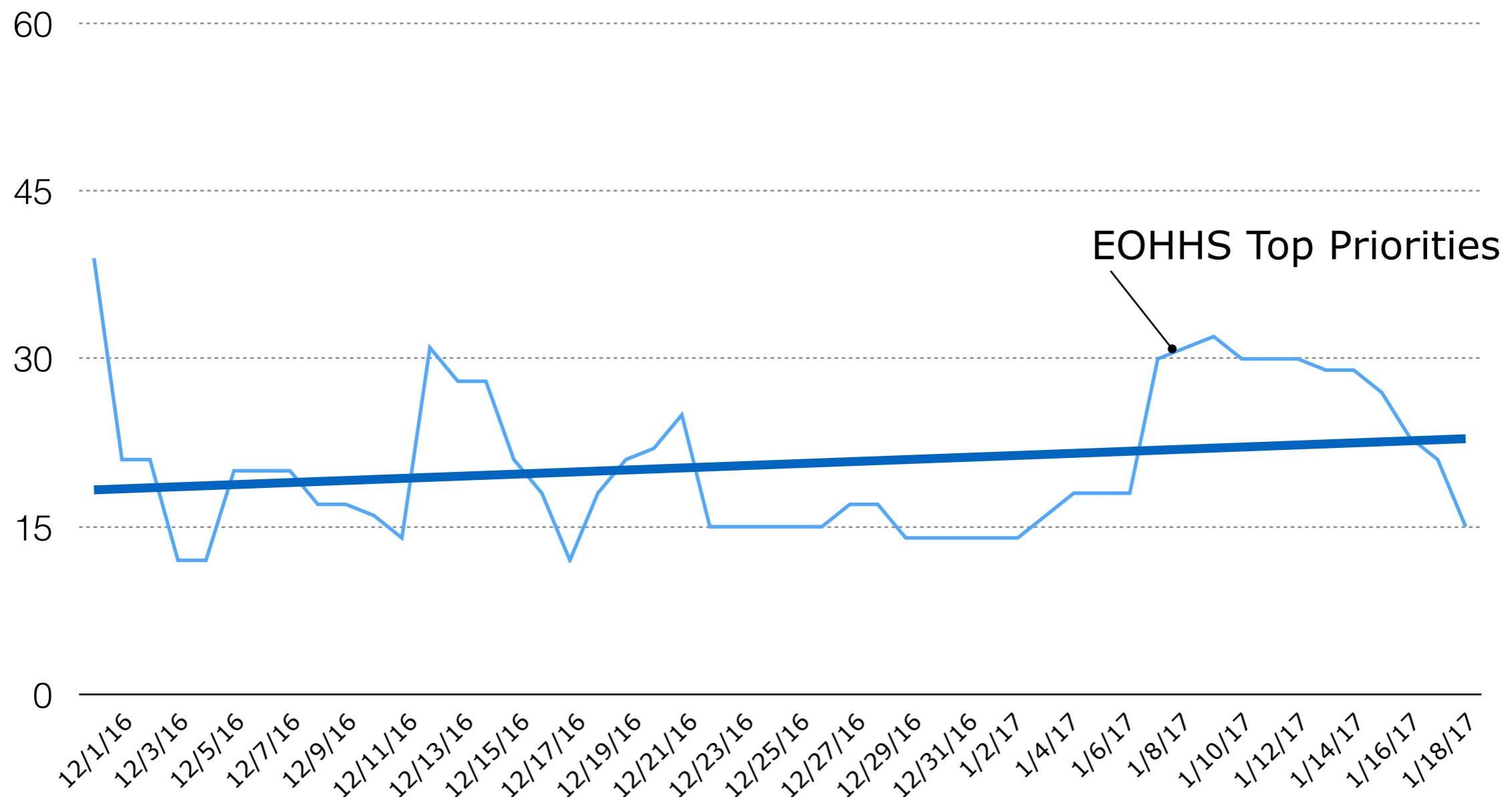
Total Priority 3 Blocker* Incidents Open
by Day



RIBridges Technical Metrics – Agency Priority 3 Incidents (P3 Blockers)

Friday January 20th, 2017 (10:00 AM EDT)

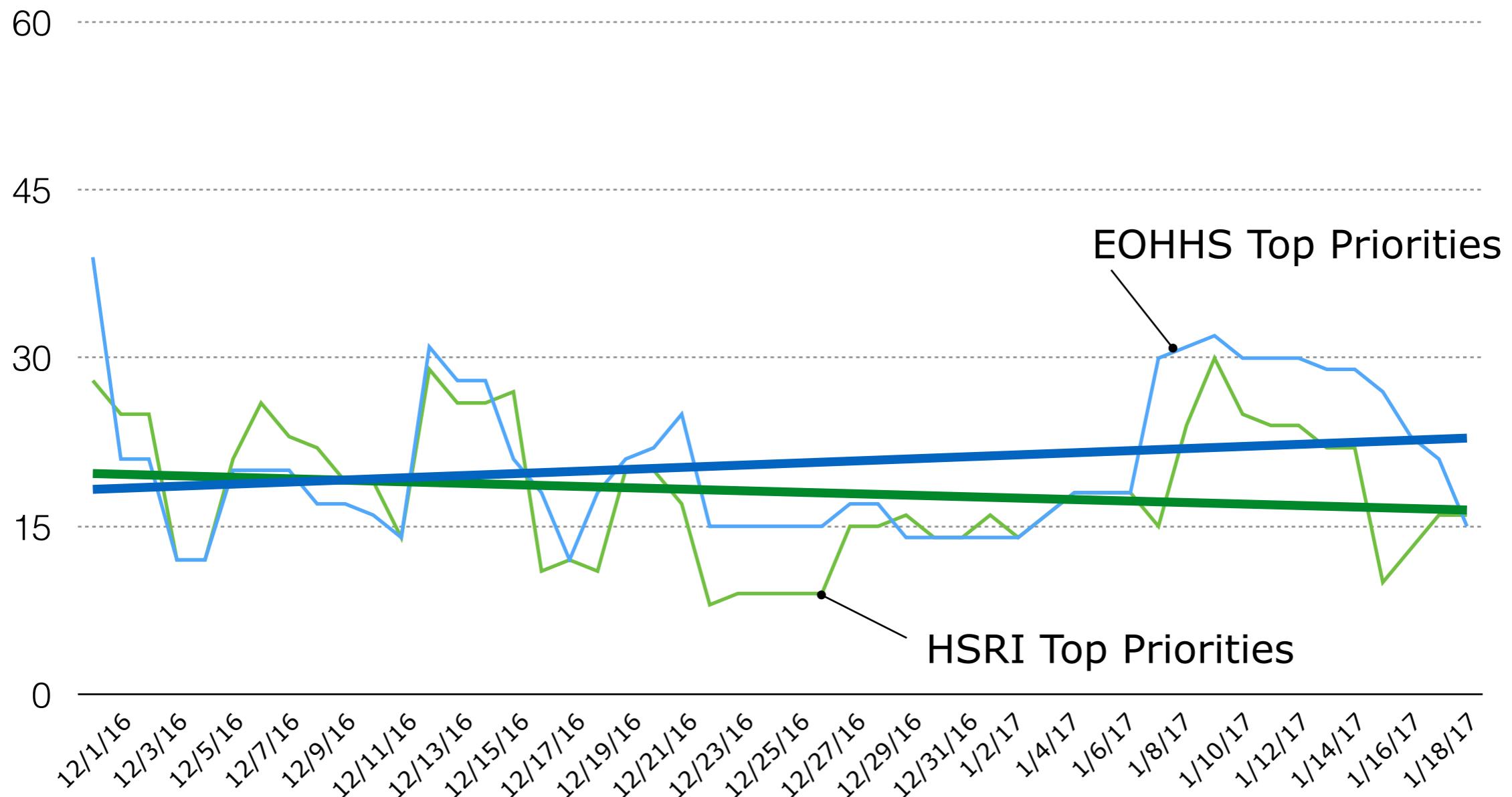
Total Priority 3 Blocker* Incidents Open
by Day



RIBridges Technical Metrics – Agency Priority 3 Incidents (P3 Blockers)

Friday January 20th, 2017 (10:00 AM EDT)

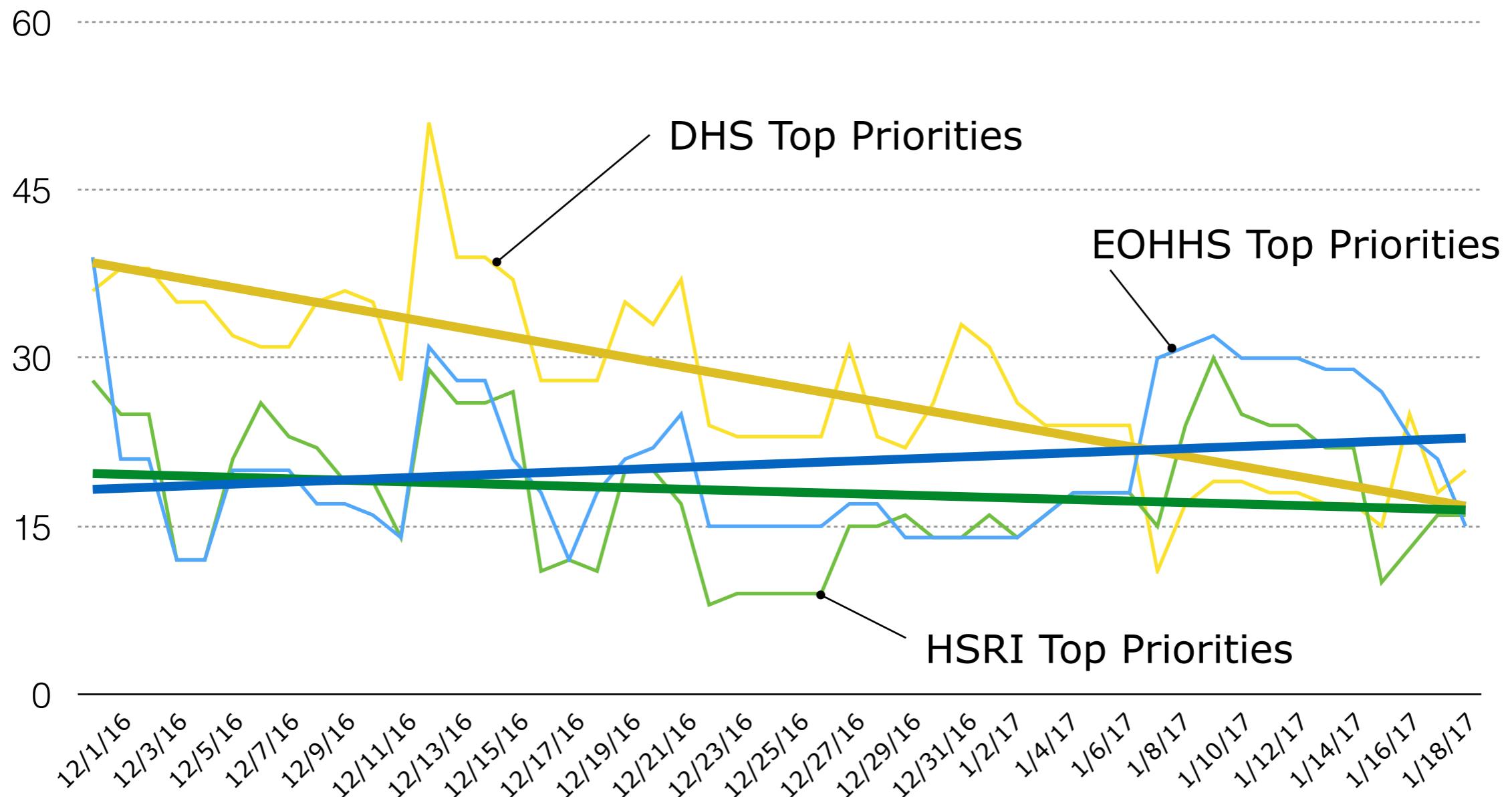
Total Priority 3 Blocker* Incidents Open by Day



RIBridges Technical Metrics – Agency Priority 3 Incidents (P3 Blockers)

Friday January 20th, 2017 (10:00 AM EDT)

Total Priority 3 Blocker* Incidents Open by Day



Line charts

Line charts

- Avoid the legend

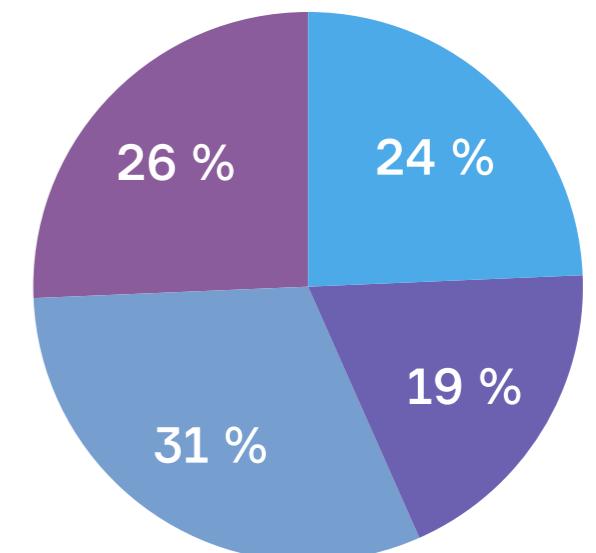
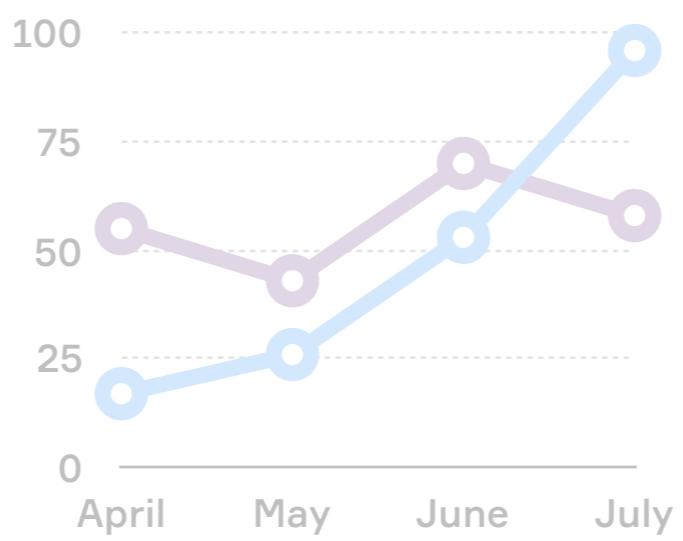
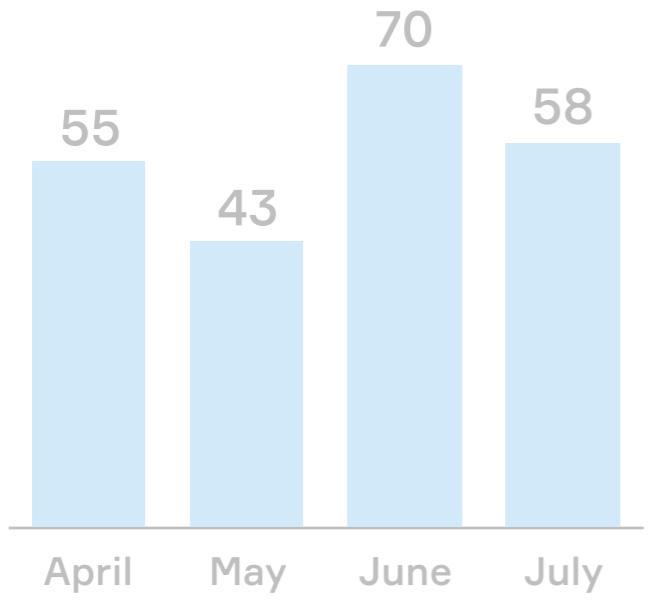
Line charts

- Avoid the legend
- Make sure the trend is visible

Line charts

- Avoid the legend
- Make sure the trend is visible
- 5 lines is the limit

Pie charts



1

Parts should
total 100%

—

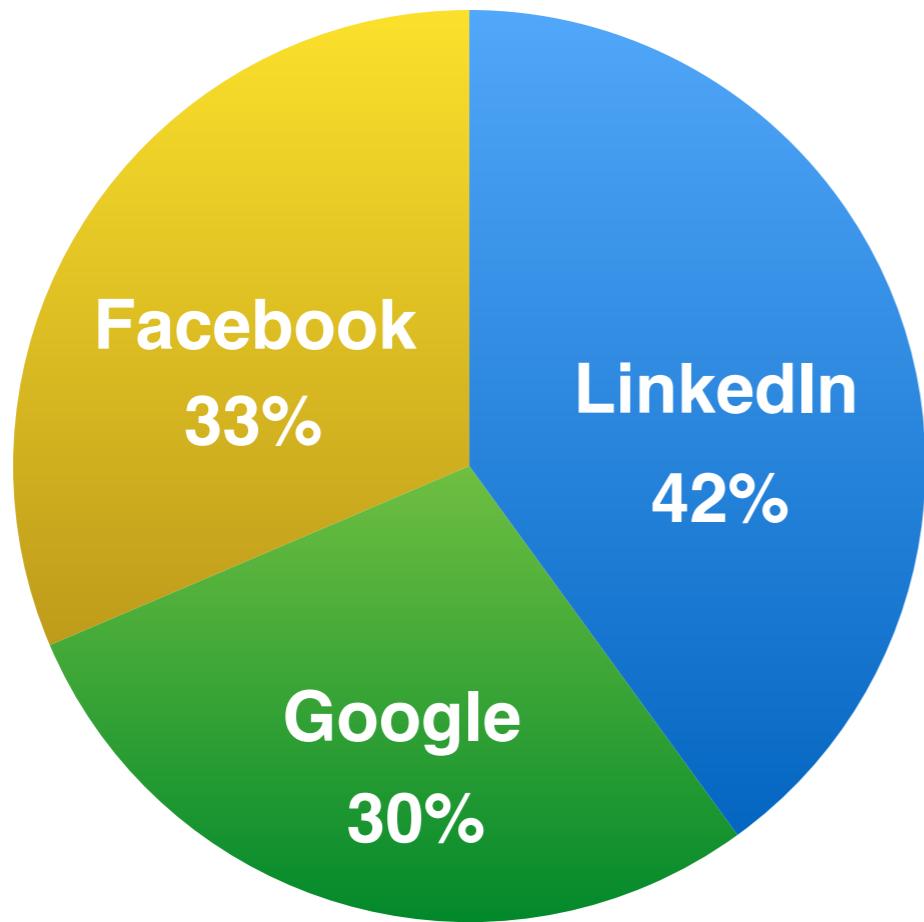
“%”

**DOESN'T ALWAYS MEAN
YOU NEED A PIE CHART**

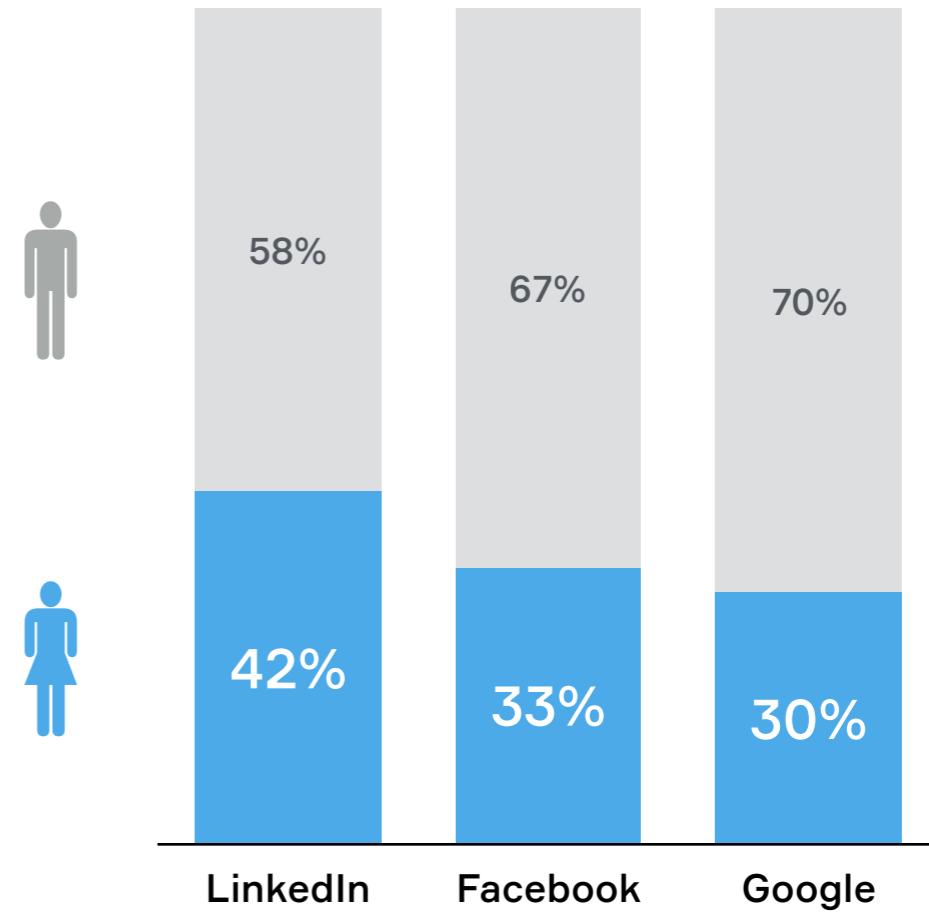
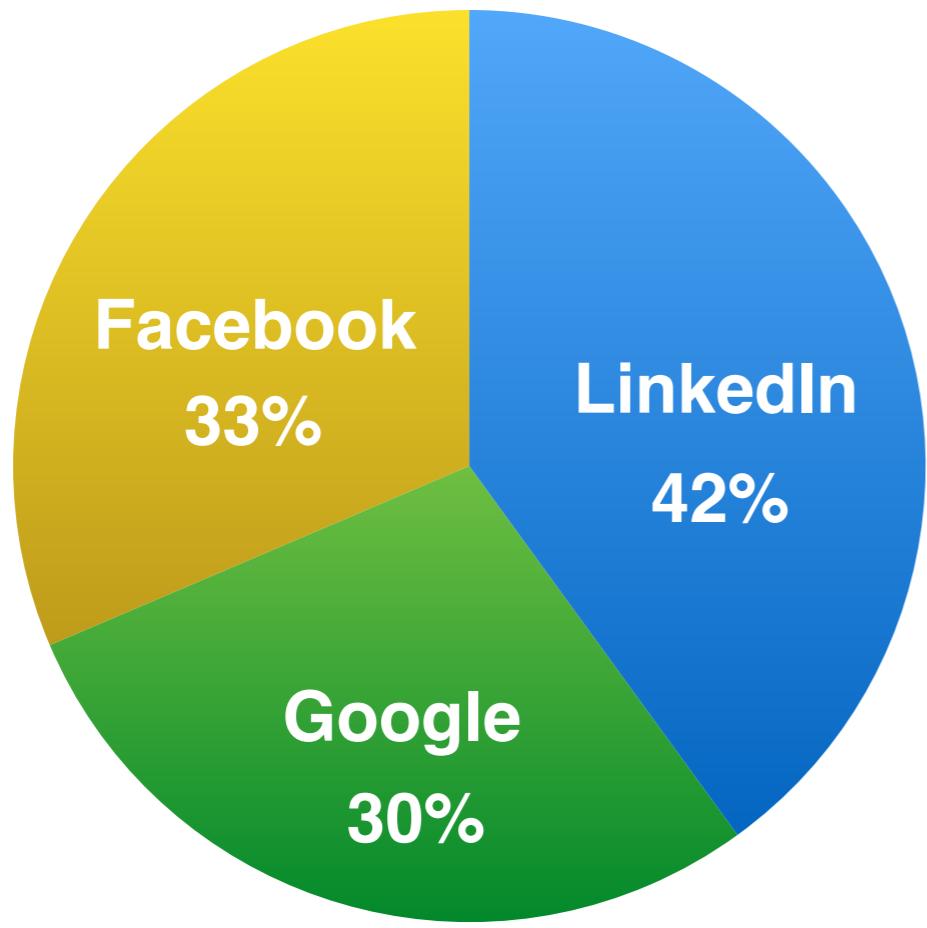
Pie charts only show parts of a whole

Women make up 42% of LinkedIn's workforce,
30% at Google and 33% at Facebook.

Women make up 42% of LinkedIn's workforce,
30% at Google and 33% at Facebook.



Women make up 42% of LinkedIn's workforce,
30% at Google and 33% at Facebook.



2

Please avoid 3D
and legends

Often used for aesthetic reasons,
the third dimension does not improve
the reading of the data; on the contrary,
these plots are difficult to interpret because
of the distorted effect of perspective.

WIKIPEDIA

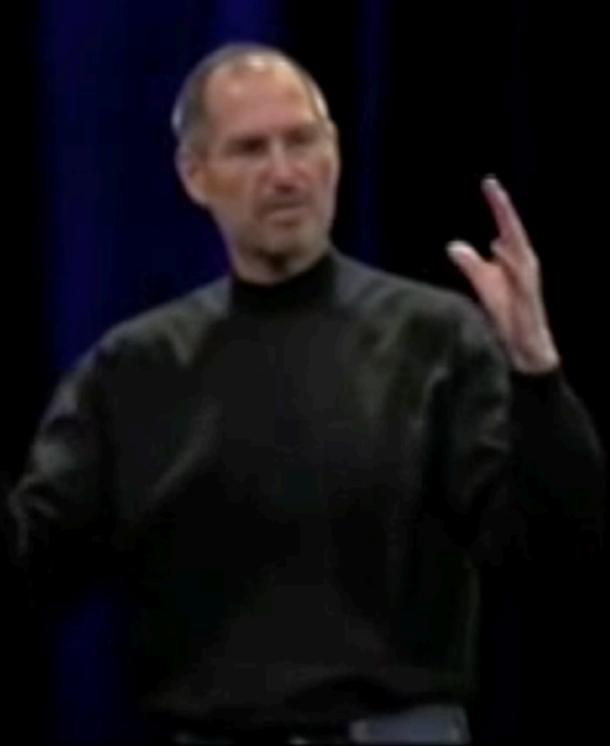
en.wikipedia.org/wiki/Pie_chart#3d_pie_cake_.2F_Perspective_pie_cake

U.S. SmartPhone Marketshare

- RM
- Apple
- Palm
- Motorola
- Nokia
- Other

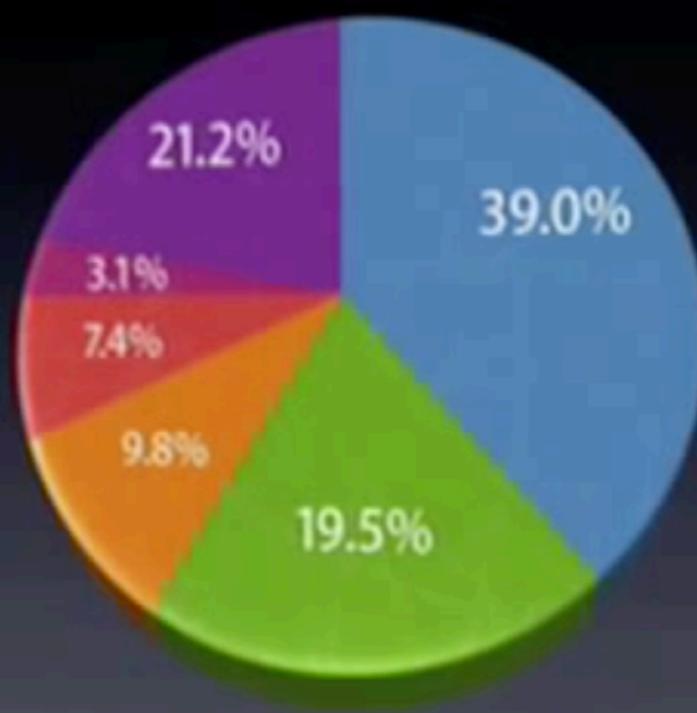


Source: Gartner for Q3



U.S. SmartPhone Marketshare

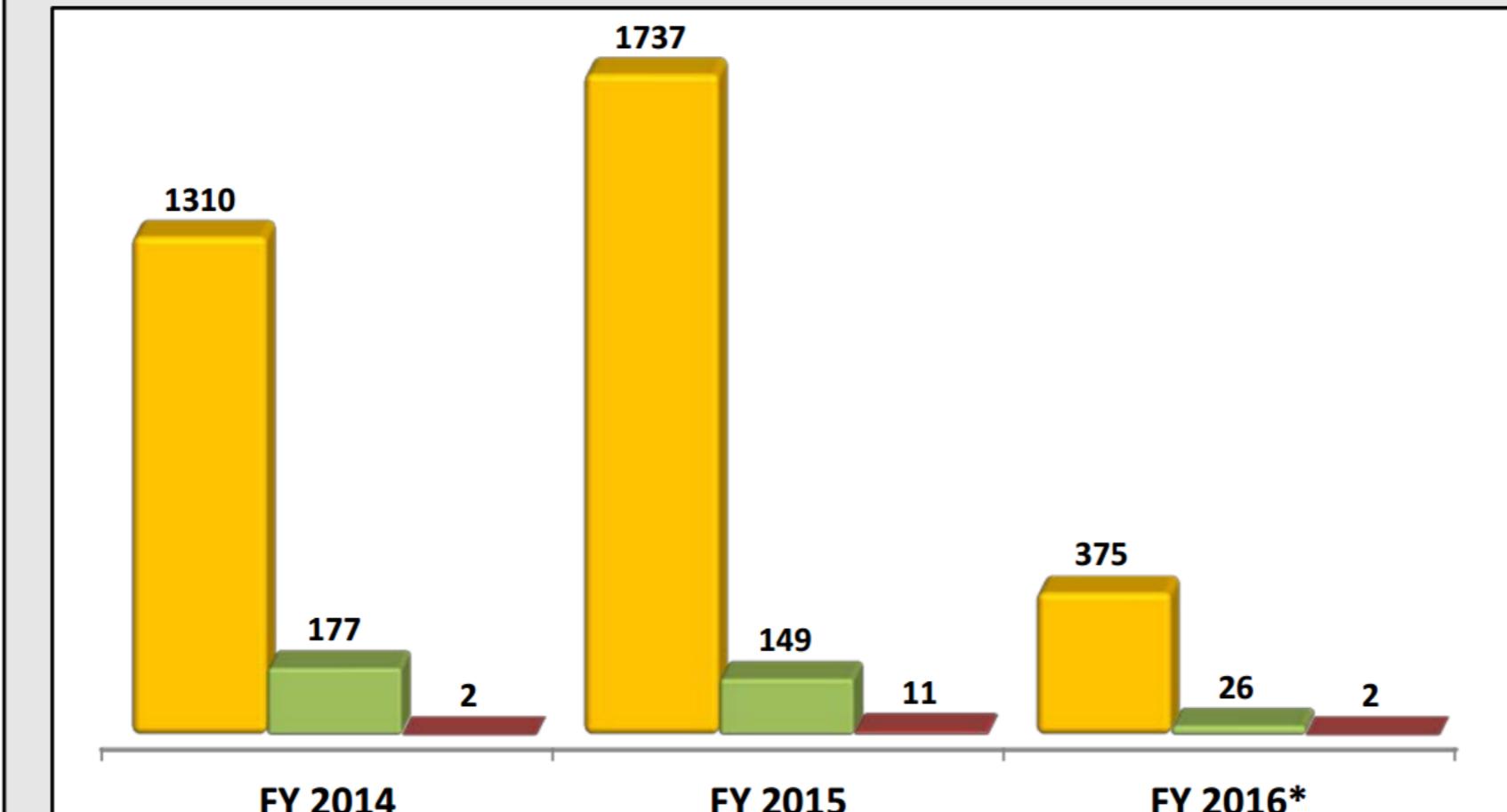
- RM
- Apple
- Palm
- Motorola
- Nokia
- Other



Source: Gartner for Q3

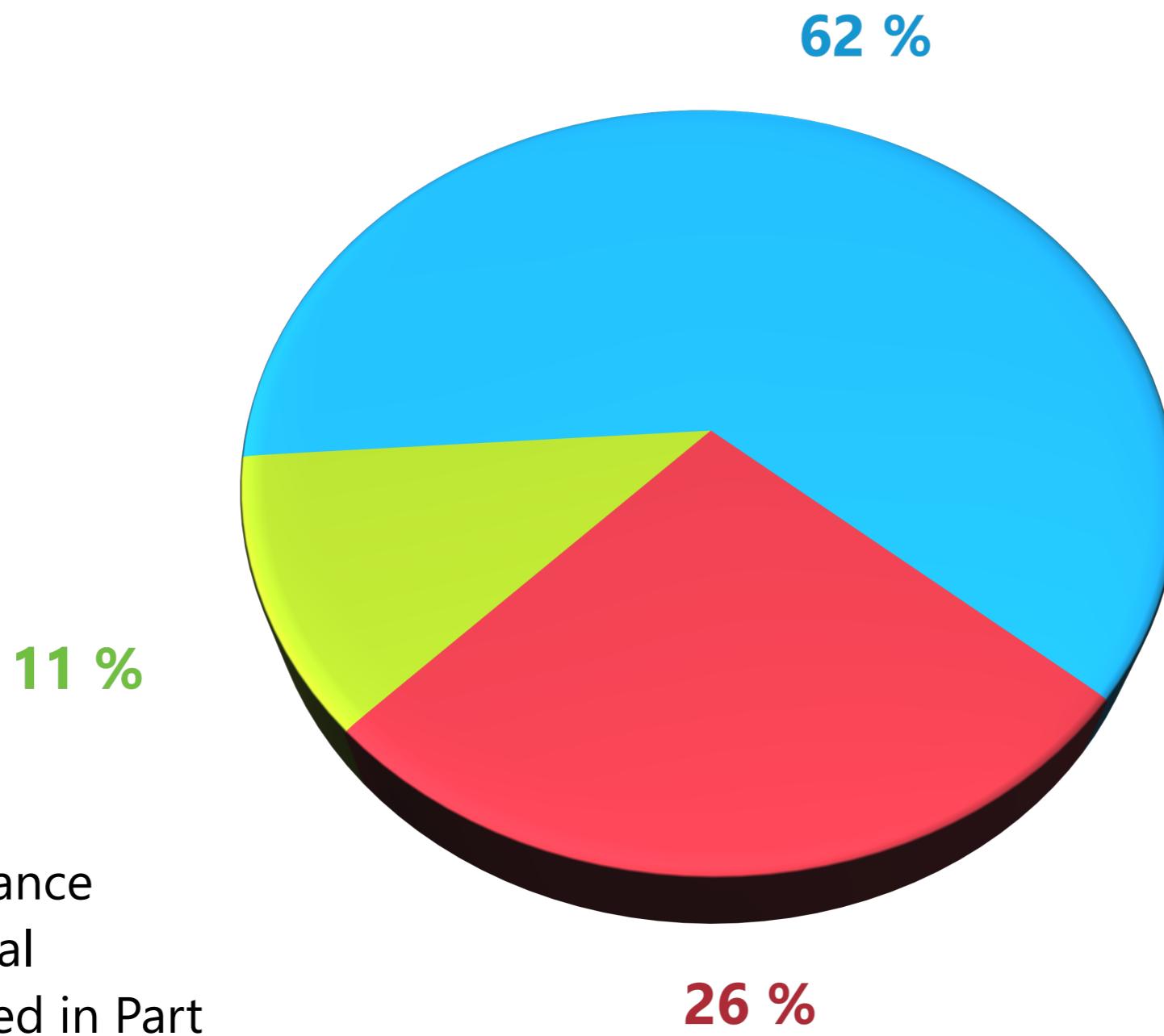
Number of AIA Petitions Filed by Fiscal Year by Type

■ IPR ■ CBM ■ PGR

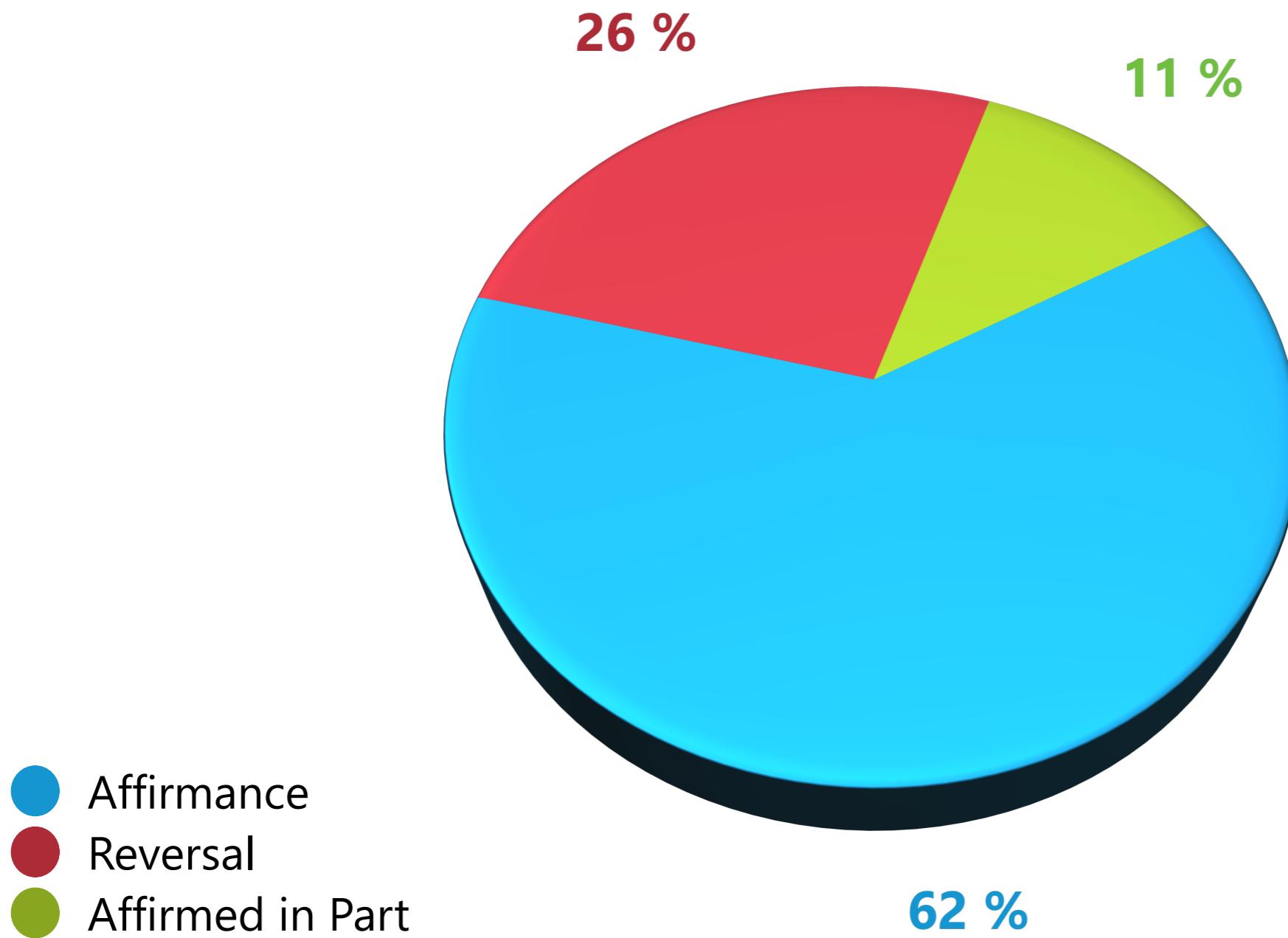


**The same applies
to any other kind of charts**

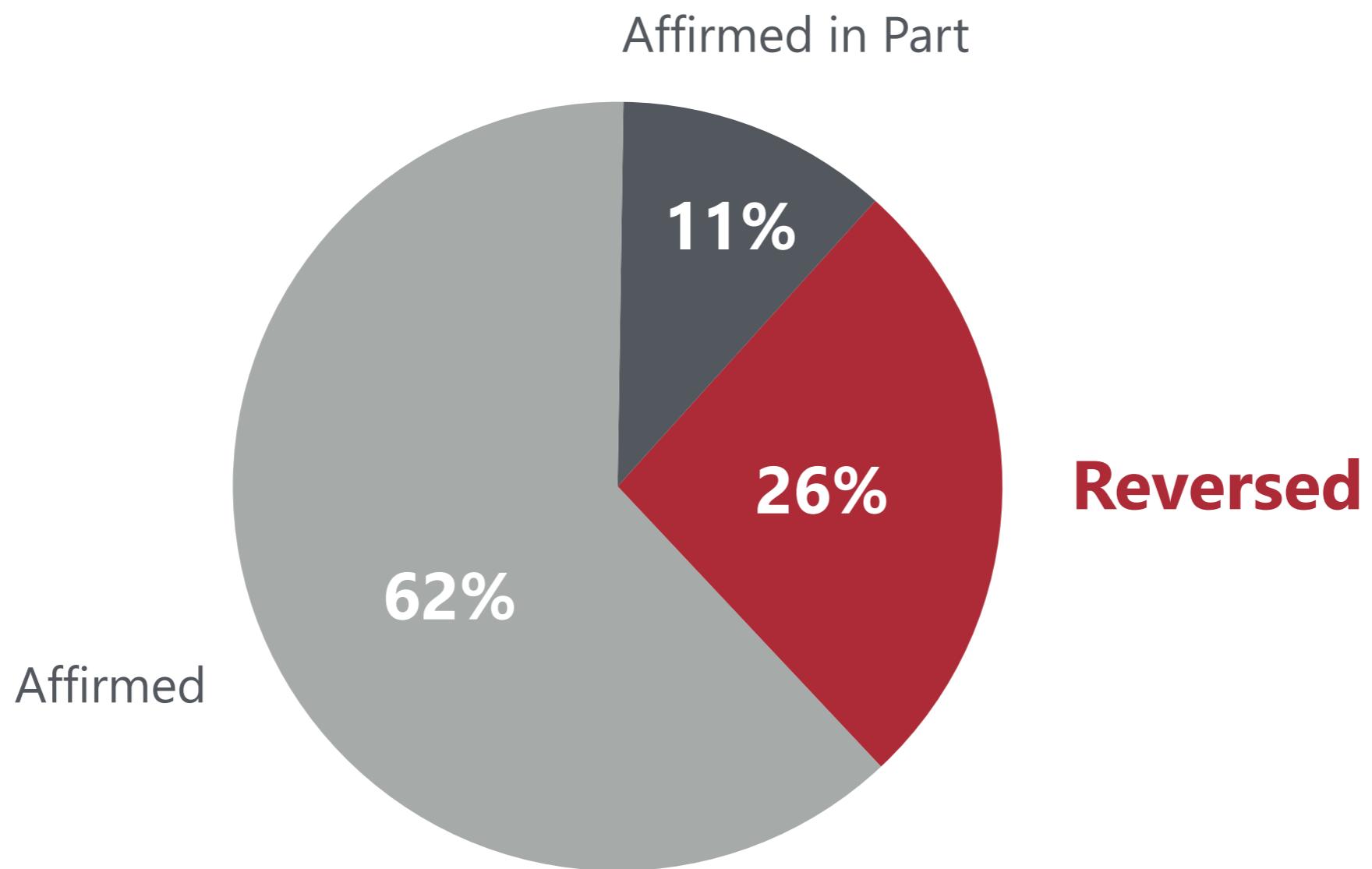
Board Decisions



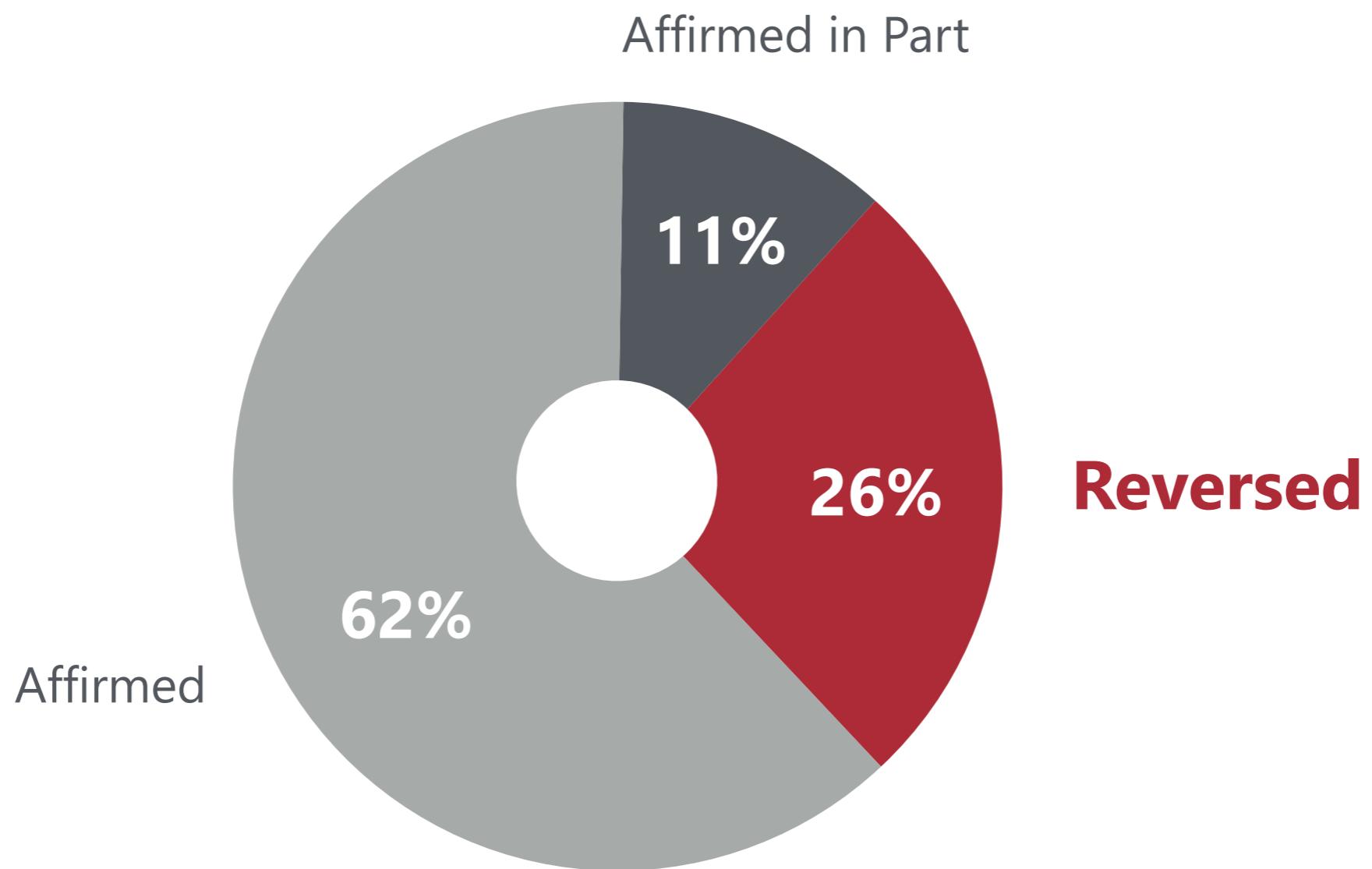
Board Decisions



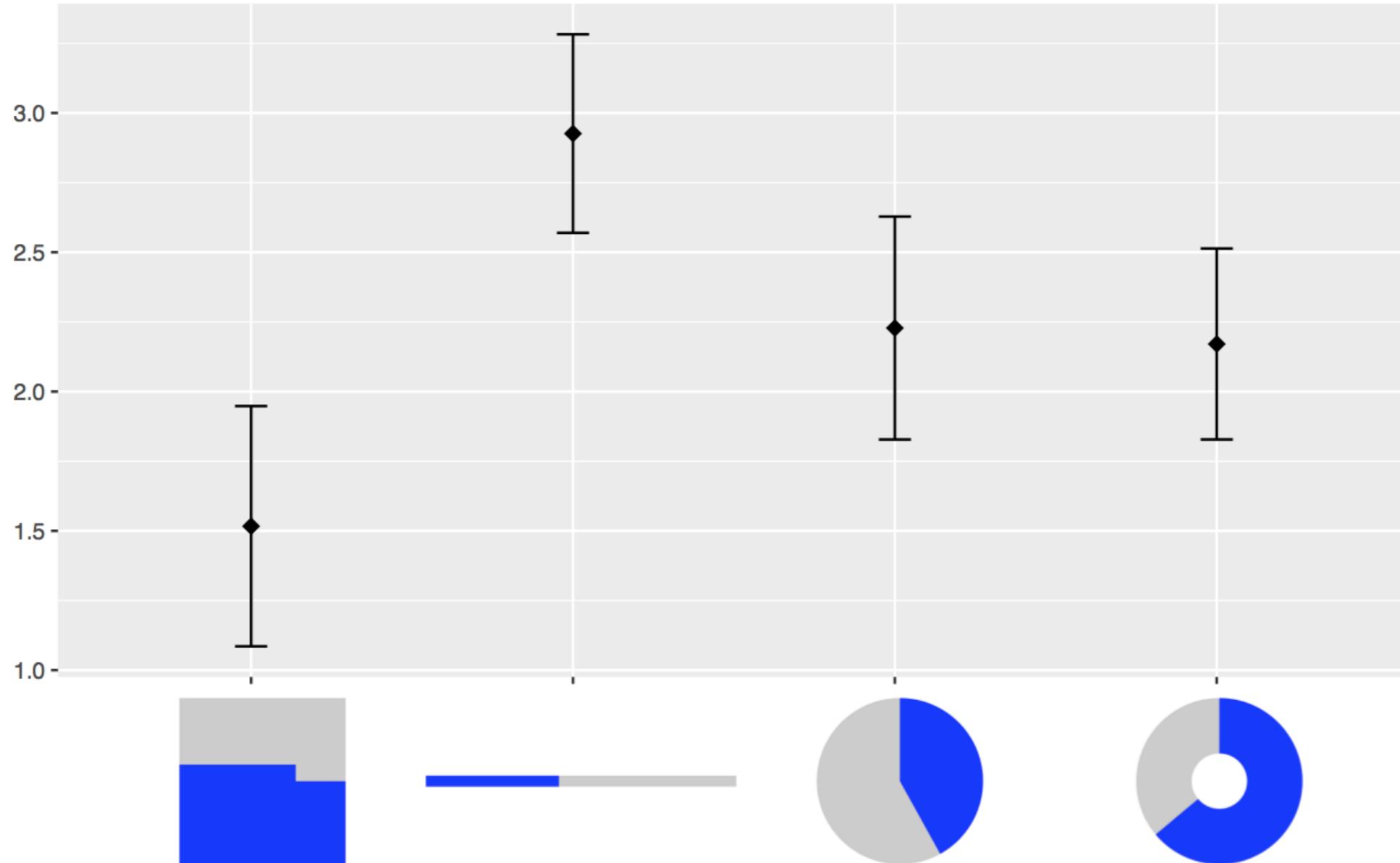
More than a quarter of the decisions were reversed by the board



More than a quarter of the decisions were reversed by the board



Absolute error (precision)



3

You can have
3-6 wedges

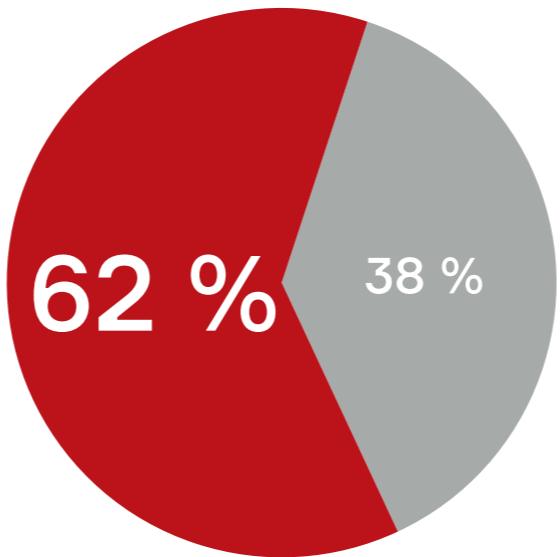
-

No, you don't

ALWAYS

need a chart

Affirmed



Affirmed in part
or reversed

62% of the decisions
were affirmed

We've got some data!

- 60 % of the applicants don't have the skills to work with information
- 80 % of the students need help with their homework assignments
- 95 % of the students need help with various school tasks

We've got some data!

- **60 %** of the applicants don't have the skills to work with information
- **80 %** of the students need help with their homework assignments
- **95 %** of the students need help with various school tasks

We've got some data!

60%

of the applicants don't have the skills
to work with information

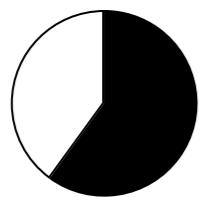
80%

of the students need help with
their homework assignments

95%

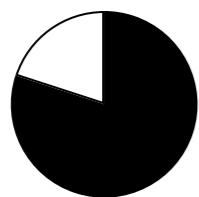
of the students need help
with various school tasks

We've got some data!



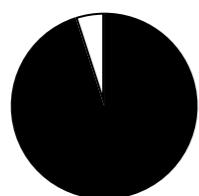
60%

of the applicants don't have skills to work with information



80%

of the students need help with their homework assignments



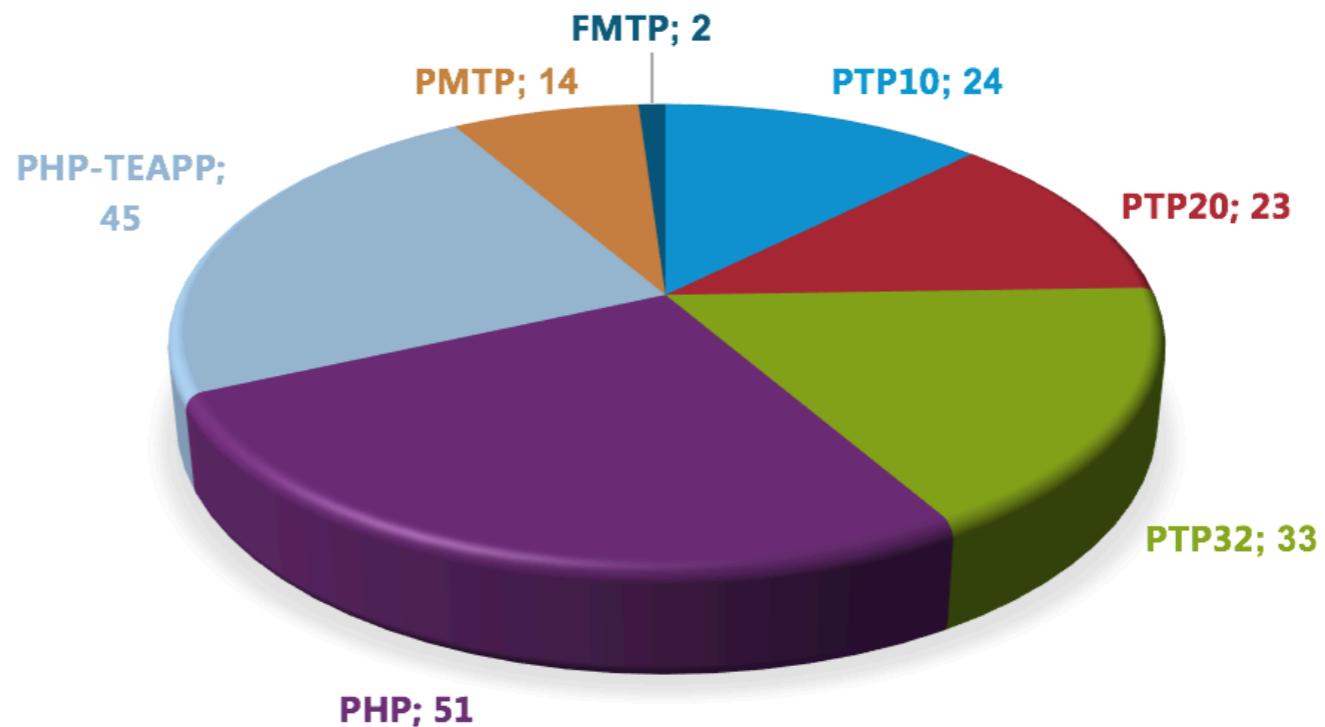
95%

of the students need help with various school tasks

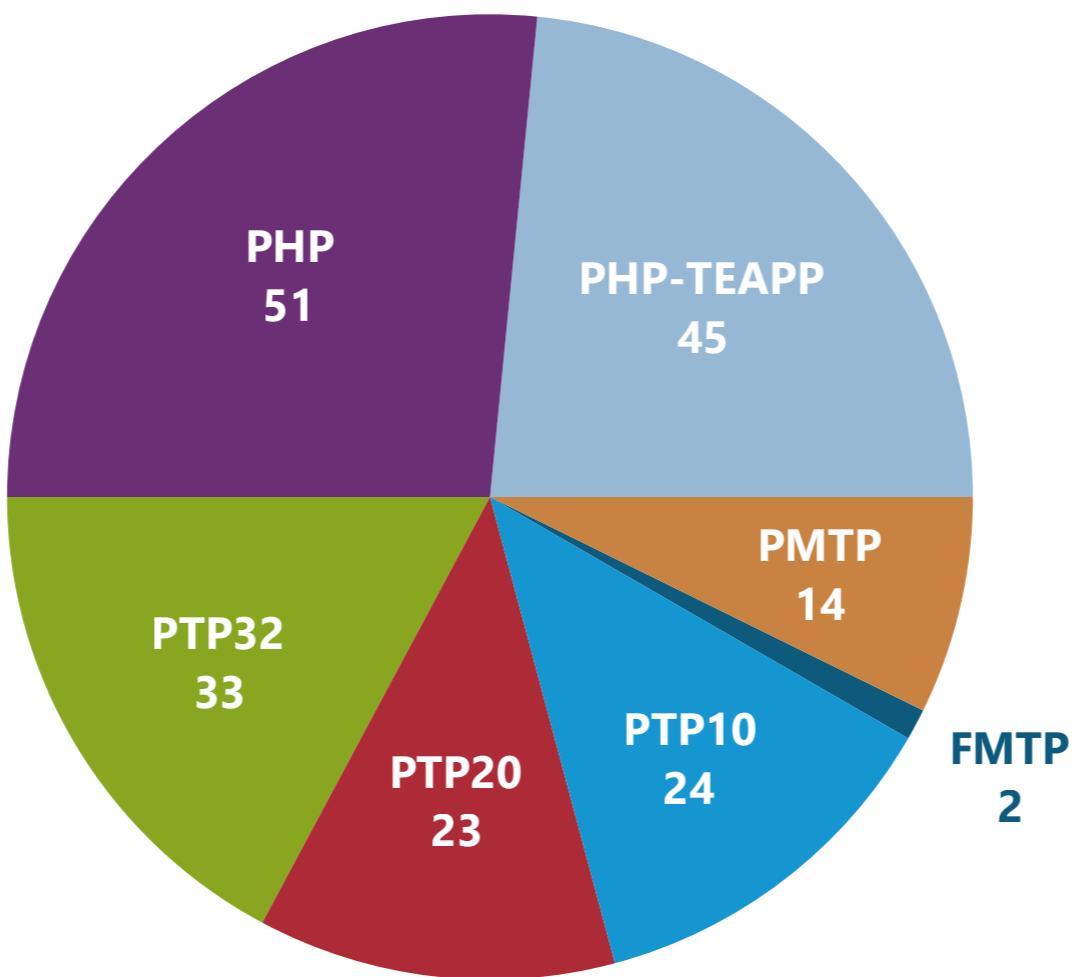
Teleworking in Information Security and Cryptography Workgroup

	PROGRAM TYPE	PARTICIPANTS
EXAMINERS	PTP10	24
	PTP20	23
	PTP32	33
	PHP	51
	PHP-TEAPP	45
SPEs	PMTP	14
	FMTP	2

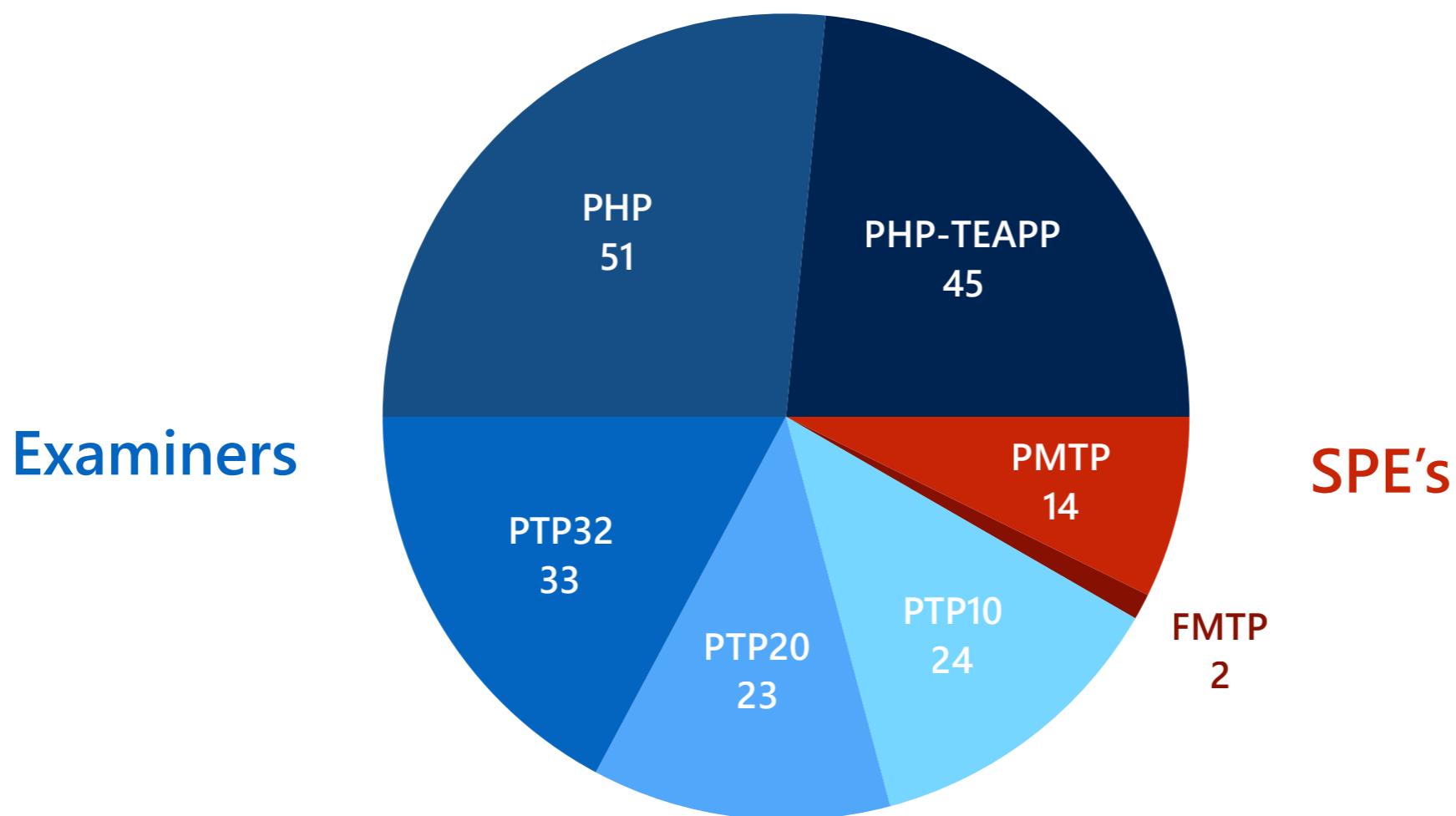
INFORMATION SECURITY
WORKGROUP TELEWORK DATA



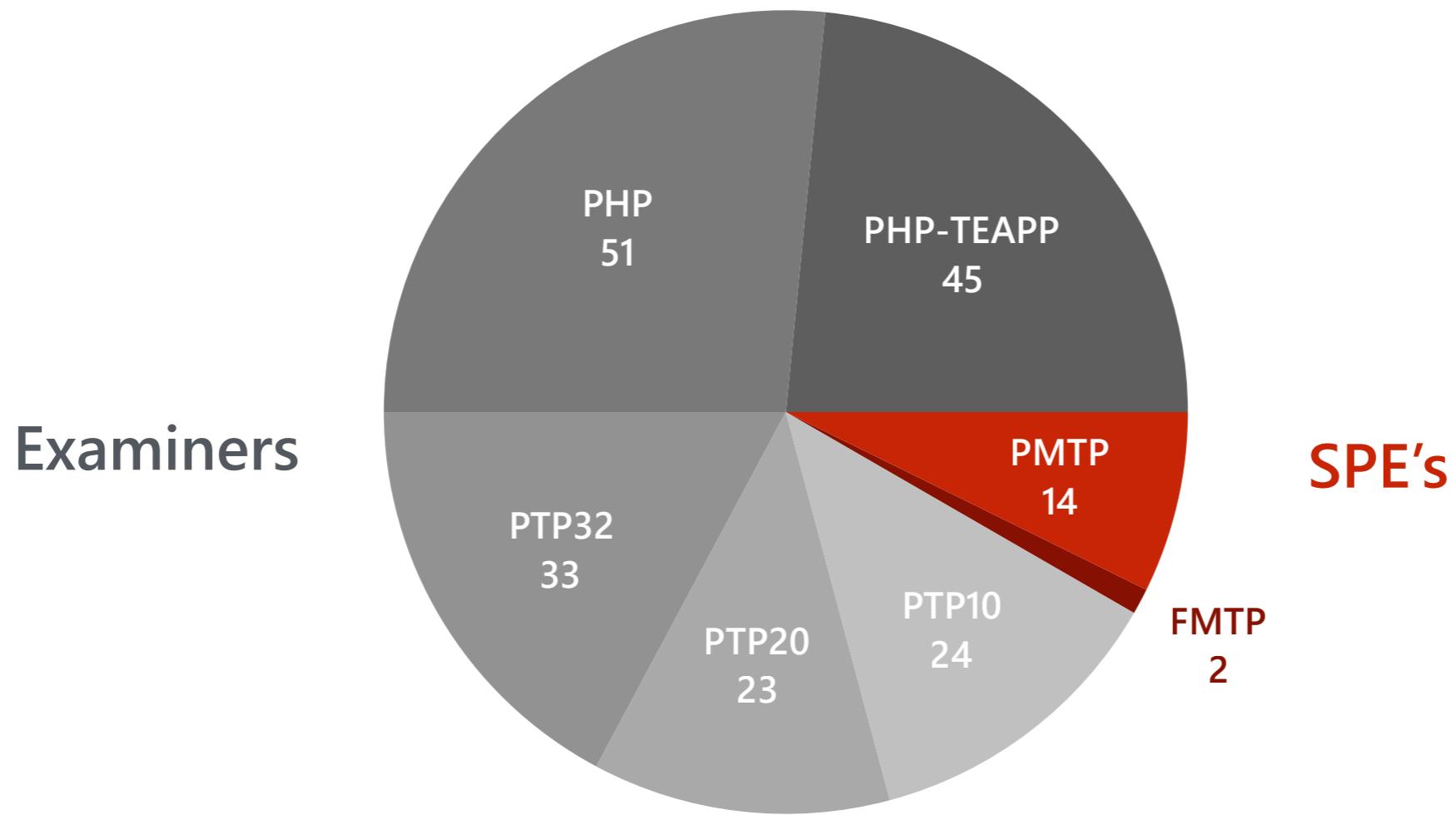
Teleworking in Information Security and Cryptography Workgroup



Teleworking in Information Security and Cryptography Workgroup

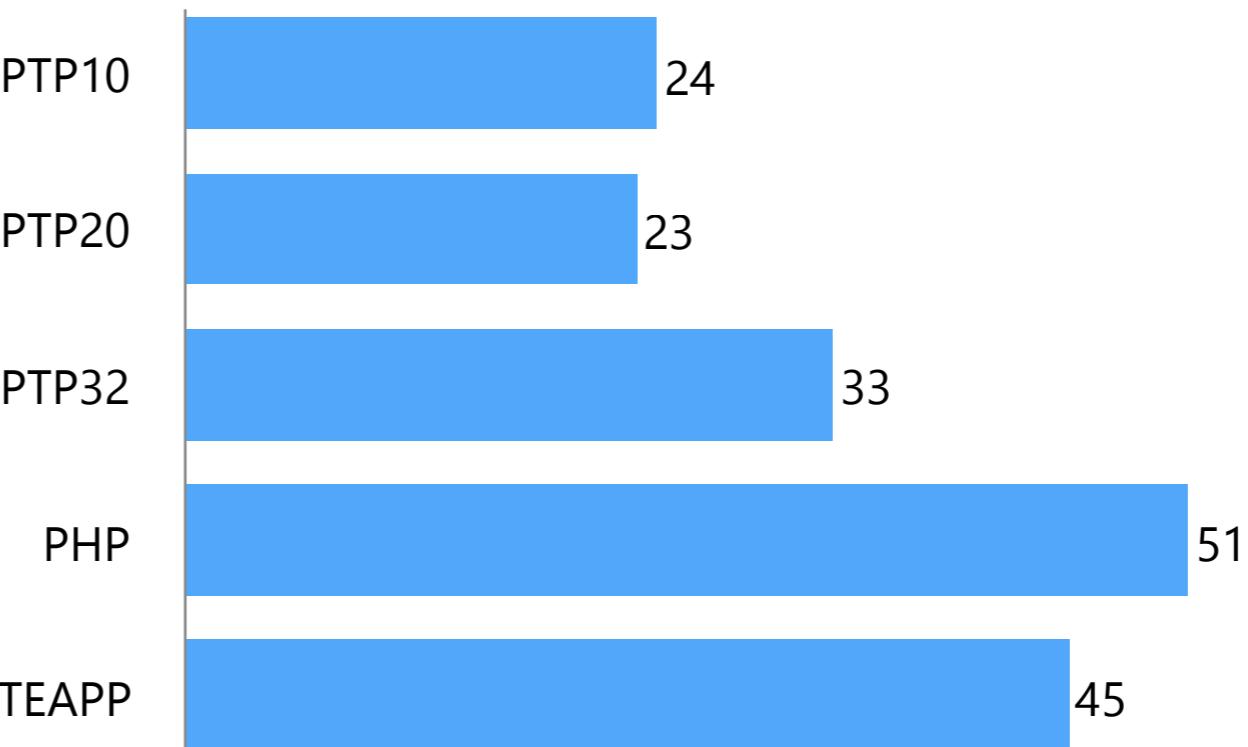


Teleworking in Information Security and Cryptography Workgroup

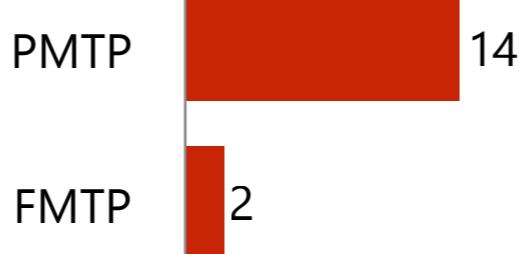


Teleworking in Information Security and Cryptography Workgroup

Examiners

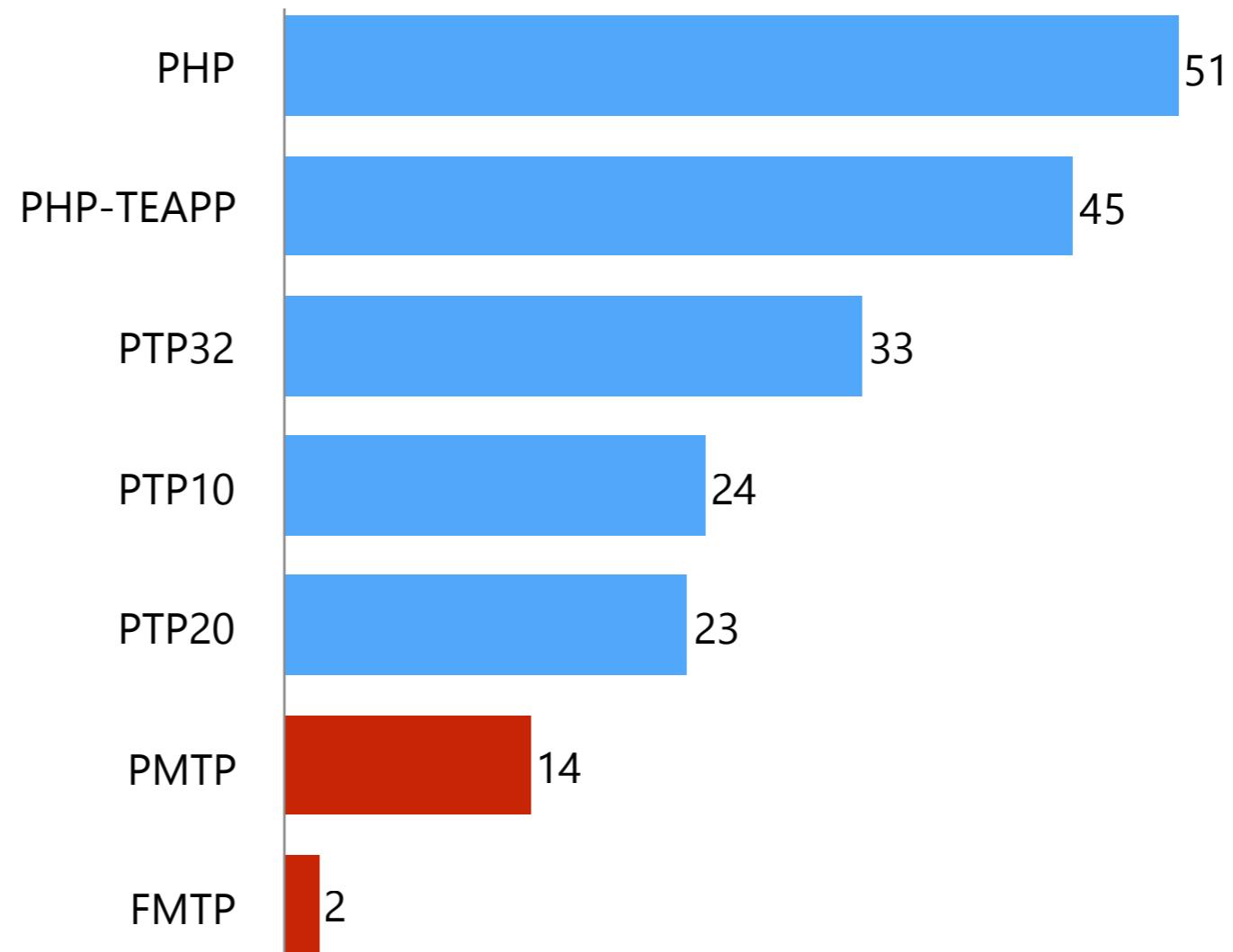


SPE's



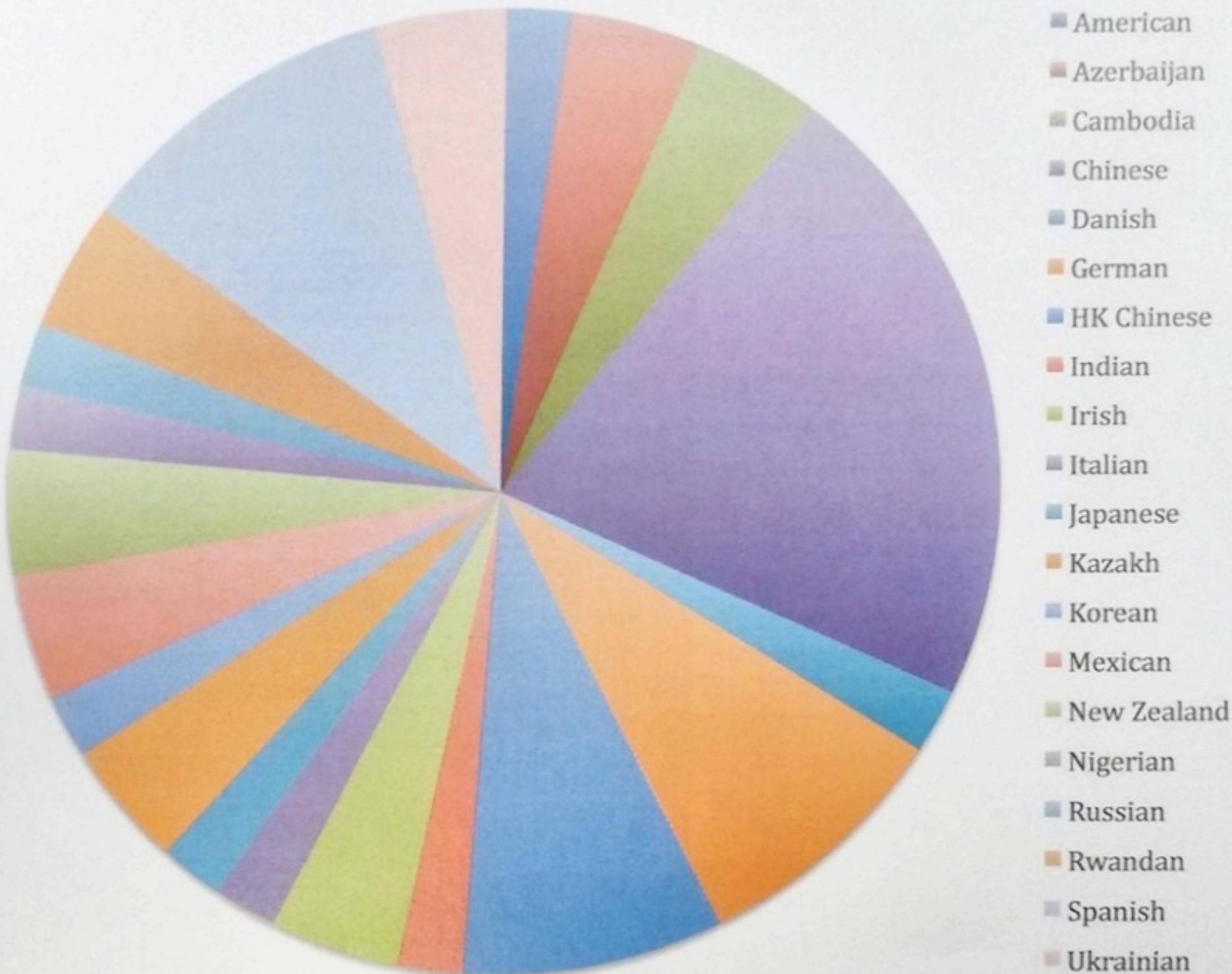
Teleworking in Information Security and Cryptography Workgroup

Examiners



SPE's

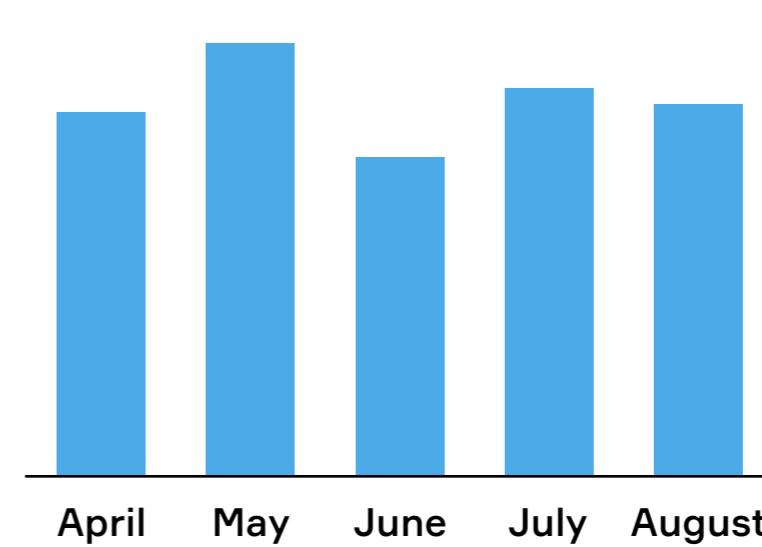
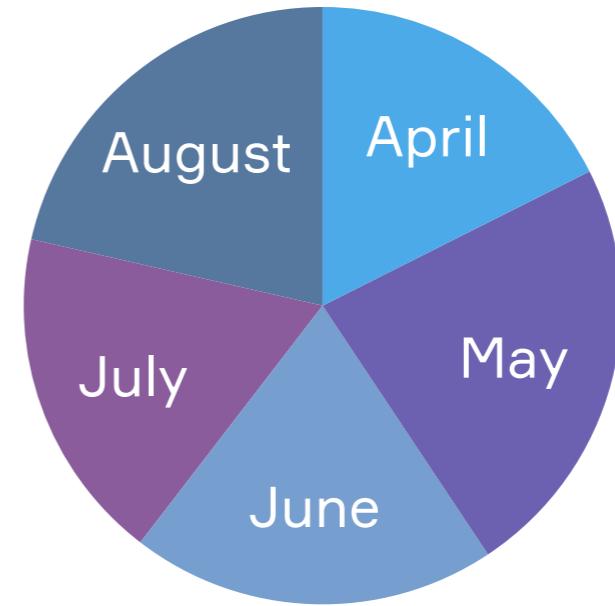
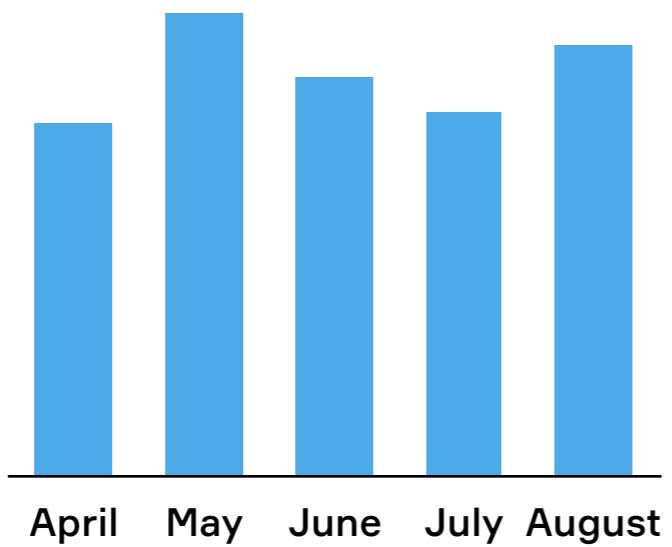
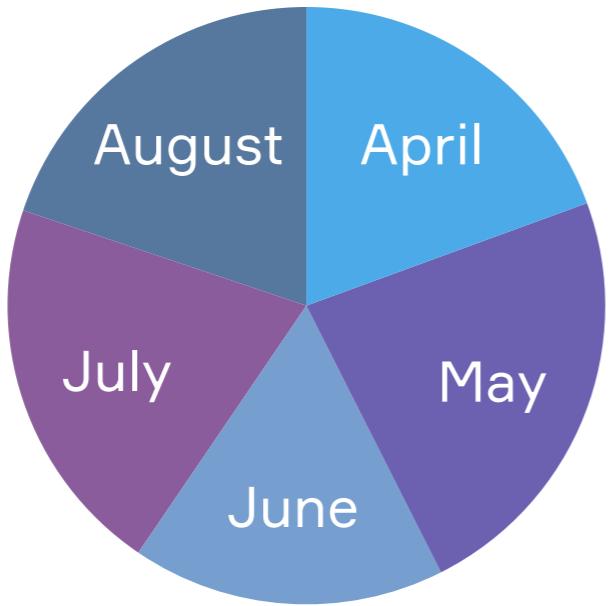
International Students



4

If you want
to compare, use bars

—



Pie Charts

Pie Charts

- Parts should total 100%

Pie Charts

- Parts should total 100%
- Please no 3D

Pie Charts

- Parts should total 100%
- Please no 3D
- No legend either

Pie Charts

- Parts should total 100%
- Please no 3D
- No legend either
- 3-6 wedges, no less, no more

Pie Charts

- Parts should total 100%
- Please no 3D
- No legend either
- 3-6 wedges, no less, no more
- Don't use them if you need comparisons

Closing remarks

Creating diagrams

Creating diagrams

1. Why do we need the diagram? Can we do without it?

Creating diagrams

1. Why do we need the diagram? Can we do without it?
2. What's the key message? What's the decision?

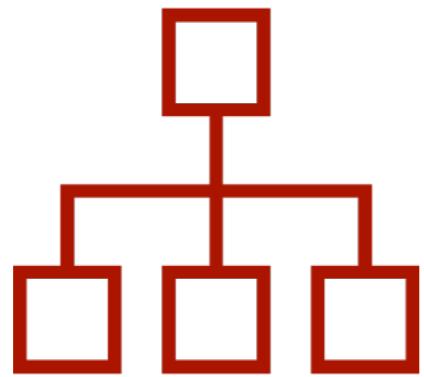
Creating diagrams

1. Why do we need the diagram? Can we do without it?
2. What's the key message? What's the decision?
3. Create 3-5 focal points for the eye to travel

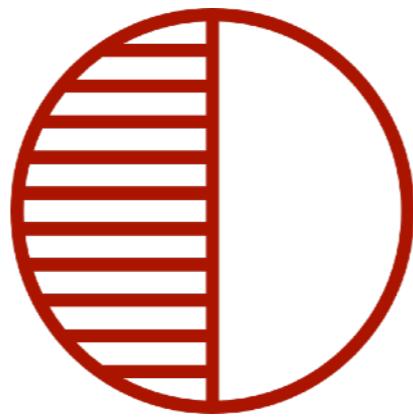
Creating diagrams

1. Why do we need the diagram? Can we do without it?
2. What's the key message? What's the decision?
3. Create 3-5 focal points for the eye to travel
4. Remove or move to the background everything else
 - *Do we need that much color?*
 - *Can we dim the connecting lines?*
 - *Do we need fills and borders?*

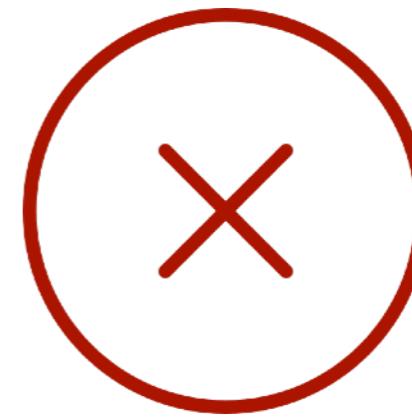
KEY PRINCIPLES



Focus

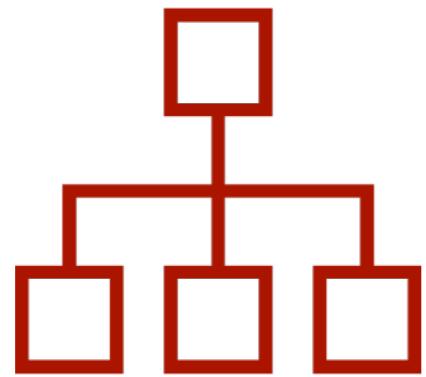


Contrast



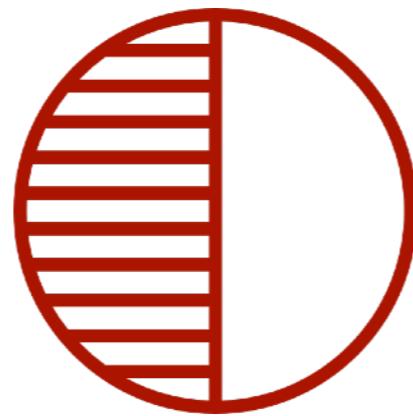
Unity

KEY PRINCIPLES

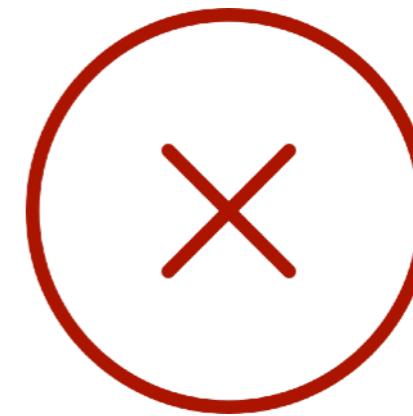


Focus

*What's the most
important thing here?*

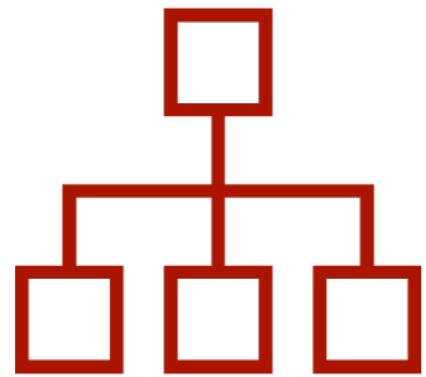


Contrast



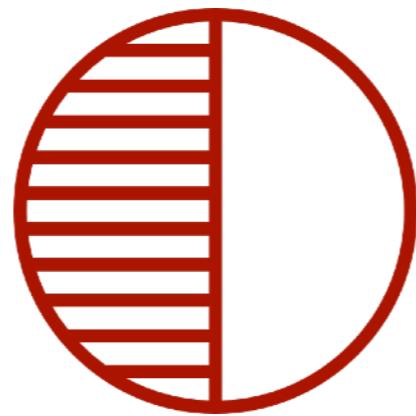
Unity

KEY PRINCIPLES



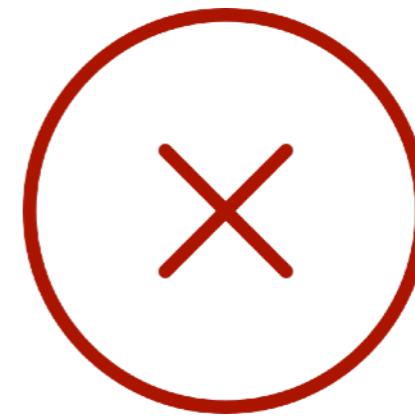
Focus

*What's the most
important thing here?*



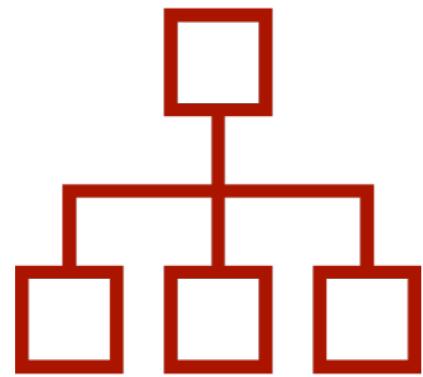
Contrast

*How can we
separate things?*



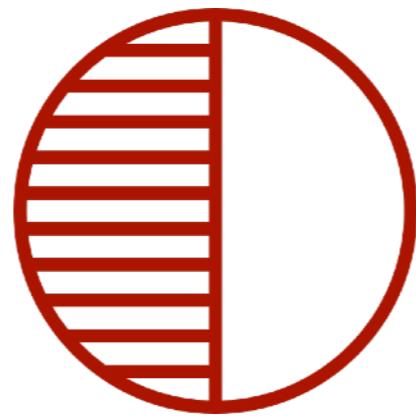
Unity

KEY PRINCIPLES



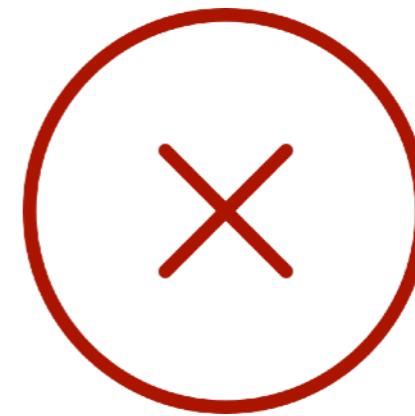
Focus

*What's the most
important thing here?*



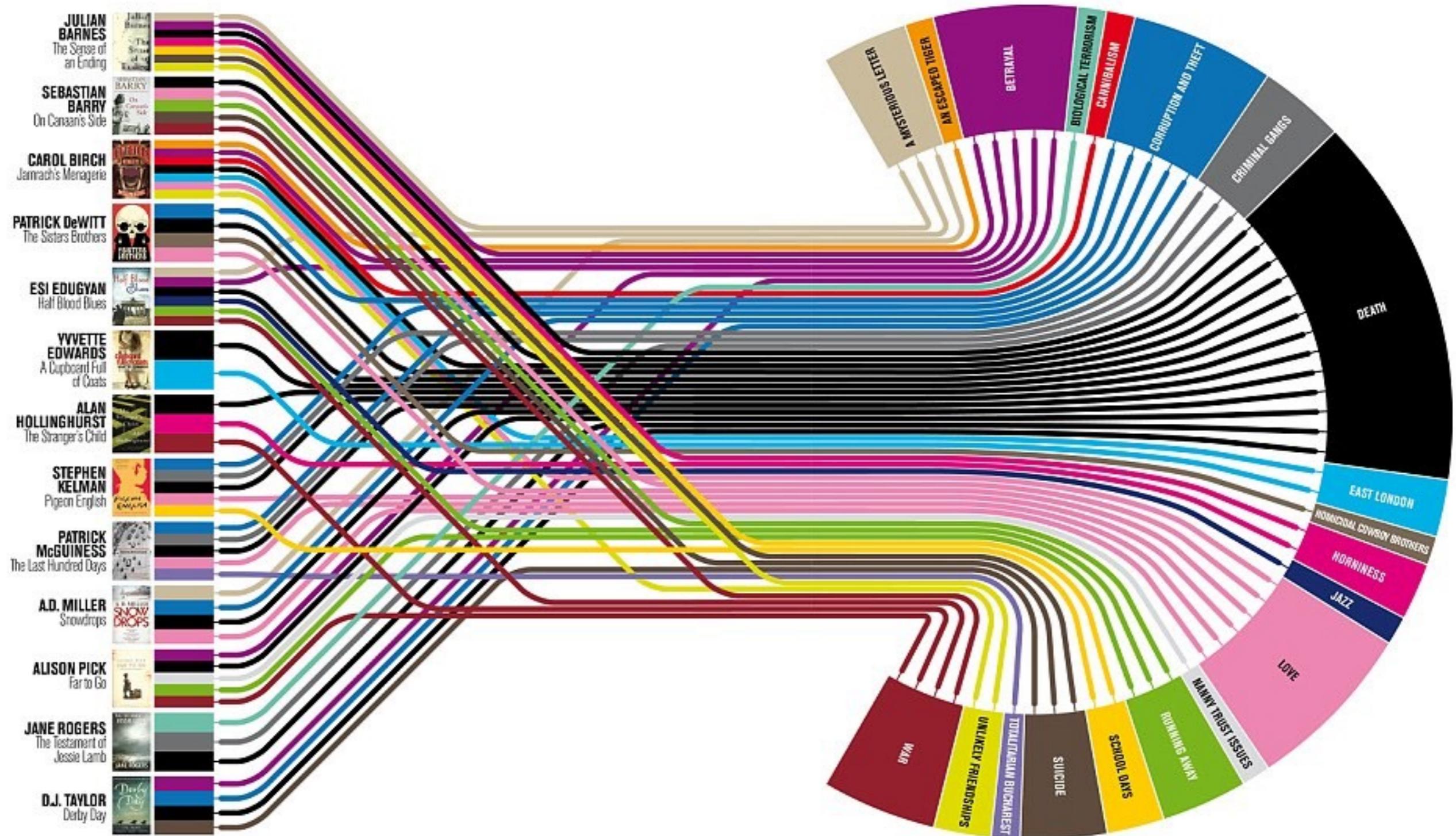
Contrast

*How can we
separate things?*

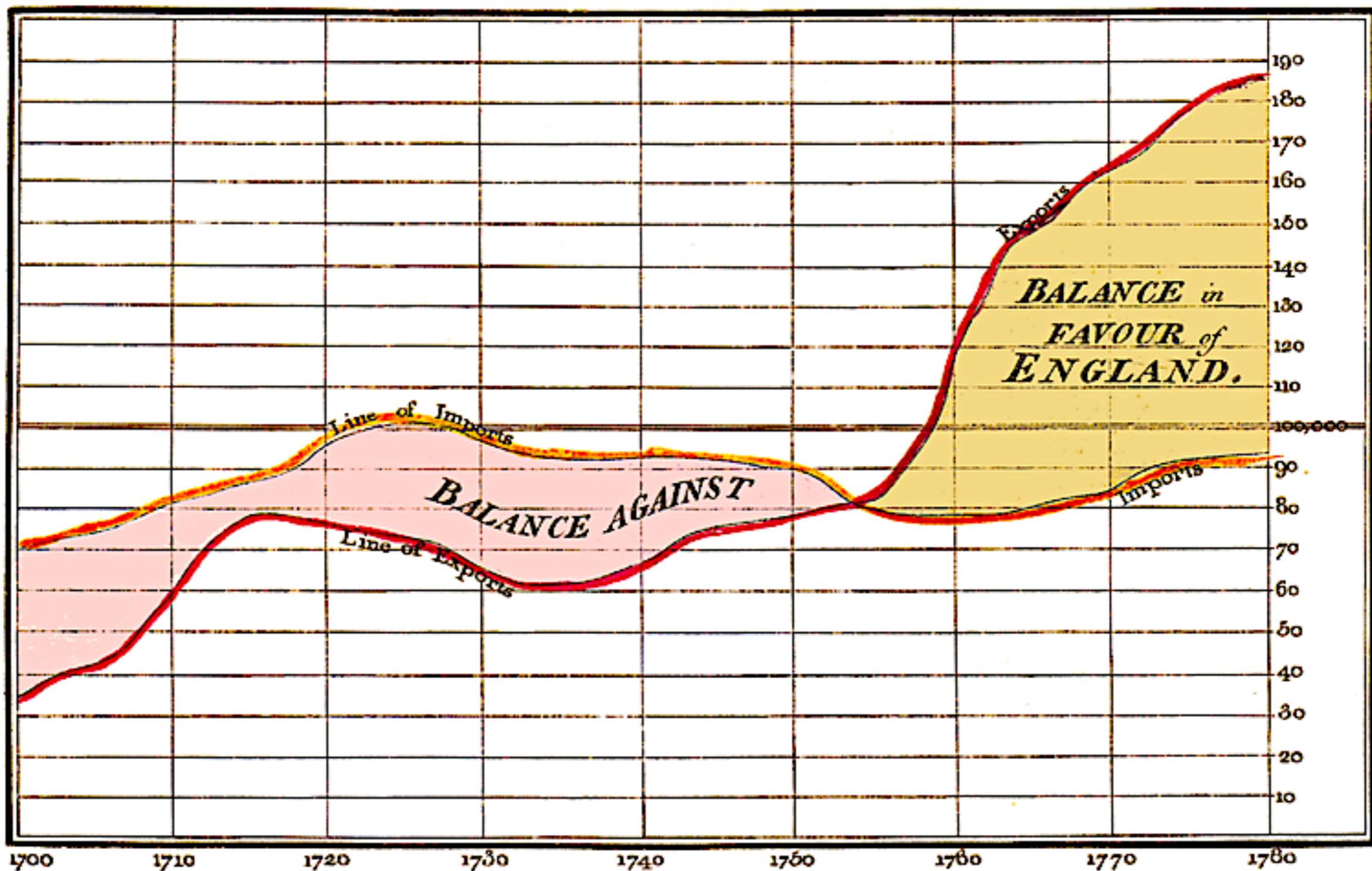


Unity

*What can
we delete?*



Exports and Imports to and from DENMARK & NORWAY from 1700 to 1780.



The Bottom line is divided into Years, the Right hand line into £10,000 each.

Published as the Act directs, 1st May 1786, by W. Playfair

No. 6 Sculpt. 332, Strand, London.

When I am working on a problem,
I never think about beauty but
when I have finished, if the solution
is not beautiful, I know it is wrong.

BUCKMINSTER FULLER

American architect and designer