

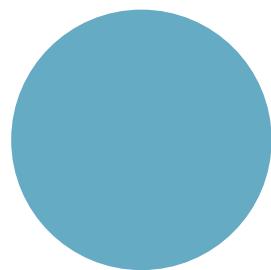


A graphic element consisting of three overlapping circles. One circle is light gray and positioned at the top. Another is black and positioned below and to the right of the first. A third circle is also black and overlaps both, centered in the middle of the image. To the left of this graphic, there is a thin, curved gray line that starts from the bottom left, goes up and to the left, then turns back down towards the bottom left.

- **Cyence
Risk
Analytics**

A risk assessment tool for
cyber underwriting

Background



Persona, application & project background



James

Cyber Underwriter

Age: 32

Employer: Insurer focusing on profitable cyber risks
Location: North America

Industry experience



Data analysis & technical skills



Time spent using Guidewire products



I interact with:

Internal:
Underwriting Manager
Underwriting Assistants
Pricing Actuary

External:
Agents
Carrier/Insured company

Tools I use:

- Guidewire Cyence for Cyber
- Google Search
- Office Suite (Excel, Powerpoint, Word)
- Outlook or other email service
- Policy admin systems (like PolicyCenter)

"I identify, understand, measure, and evaluate highly complex risk and provide applicable terms and conditions to make profitable decisions for my company."



I instantly gain differentiating insights to identify emerging risks.

I obtain necessary data points to write a company and determine pricing efficiently.

I am able to quantify risk based on experience history and forecasting methods.



MY RESPONSIBILITIES AND DECISIONS...

Solicit new and renewal submissions:

- What information do I need to collect to complete the submission?

Determine appropriate pricing of complex risks:

- How should the company be priced? How do I justify the risk I write?

Analyze highly complex risks underwritten:

- How do I evaluate the quality, quantity, and profitability of risks I write?

Interact with Agents:

- How can I engage them around why information is needed?

I'M FRUSTRATED WHEN...



- I don't have enough information to determine a business' risk.
- I'm unable to locate and document risk evaluation data.
- Valuable time is spent on administrative tasks.
- I can't keep up with trends in the quickly evolving marketplace.
- It's hard to differentiate from competition based on pricing and offerings.

MY SUCCESS IS MEASURED BY...



- The number of profitable businesses written.
- Growth of the company portfolio.
- Quality of interactions with Agents and colleagues.
- Timeliness and accuracy.
- Compliance with guidelines.

DESIGNING FOR JAMES:

I need clear guidance on how to use the tool and I want to understand how it can improve my work efficiency. It's important that I be able to effectively integrate it within my risk evaluation process.
I want to leverage the power of the tool to understand a company's risk thoroughly. Standardized metrics with easy-to-understand visualizations can be very helpful.

Persona

Cyber Underwriter

Problems:

- I don't have enough information to determine a business risk.
- Risk evaluation is a time taking process due to administrative tasks.
- I struggle with gathering information about possible next action based on identified risk.

Needs:

- I need to understand a company's risk faster and efficiently.
- I need actionable items to make effective underwriting decisions.

About Cyence Risk Analytics

- Cyence for cyber is a risk analytics tools used by underwriters to evaluate a risk of a given business.
- The underwriters than use this information to make underwriting and pricing decision.
- It helps them to underwrite a risk with appropriate premium for insuring an online / digital business.

A typical underwriting workflow



Design Process

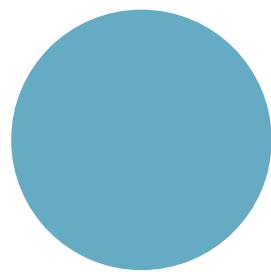
Phase - 1



Phase - 2



User Research



Insights, goals, and problems

UX Research

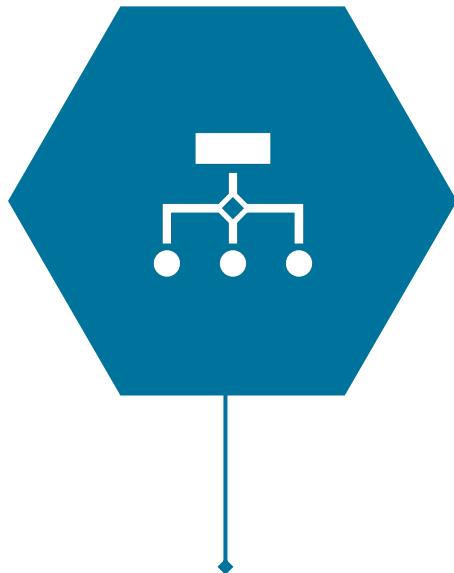
Research Insights:

- # of customer involved: **7**
- # of users: **10** (Underwriters and Underwriter leadership)
- Research set up: **1hr online zoom calls**

Research Goals:

- To understand the reason behind identified **usage patterns**.
- To understand **how the users are currently using** all the information within application.
- To **identify problems and friction points** users are facing while using our risk analytics tool.

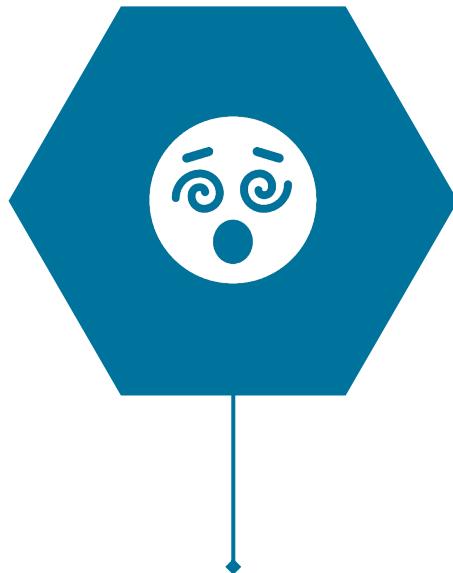
4 key identified problems...



Hard to understand the correlation between data



Hard to find impactful & most concerning information

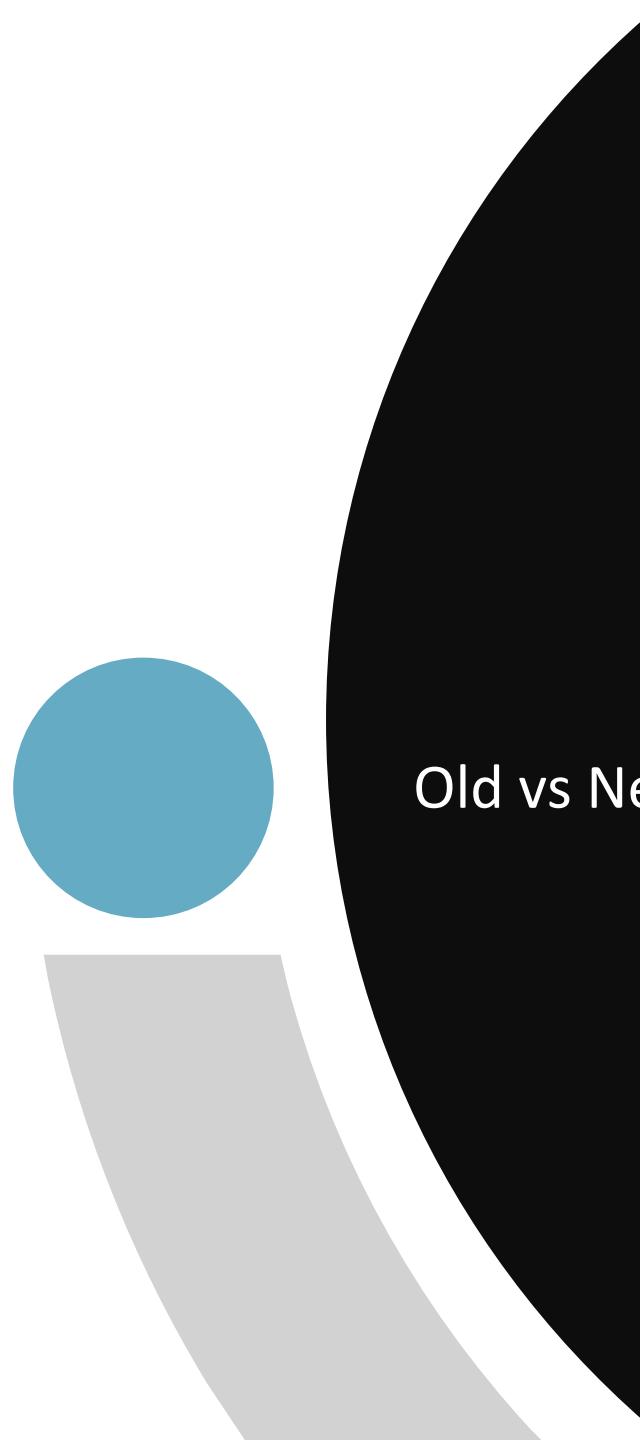


Don't know what to do with certain information



Found the UX and printable report old and outdated.

Design



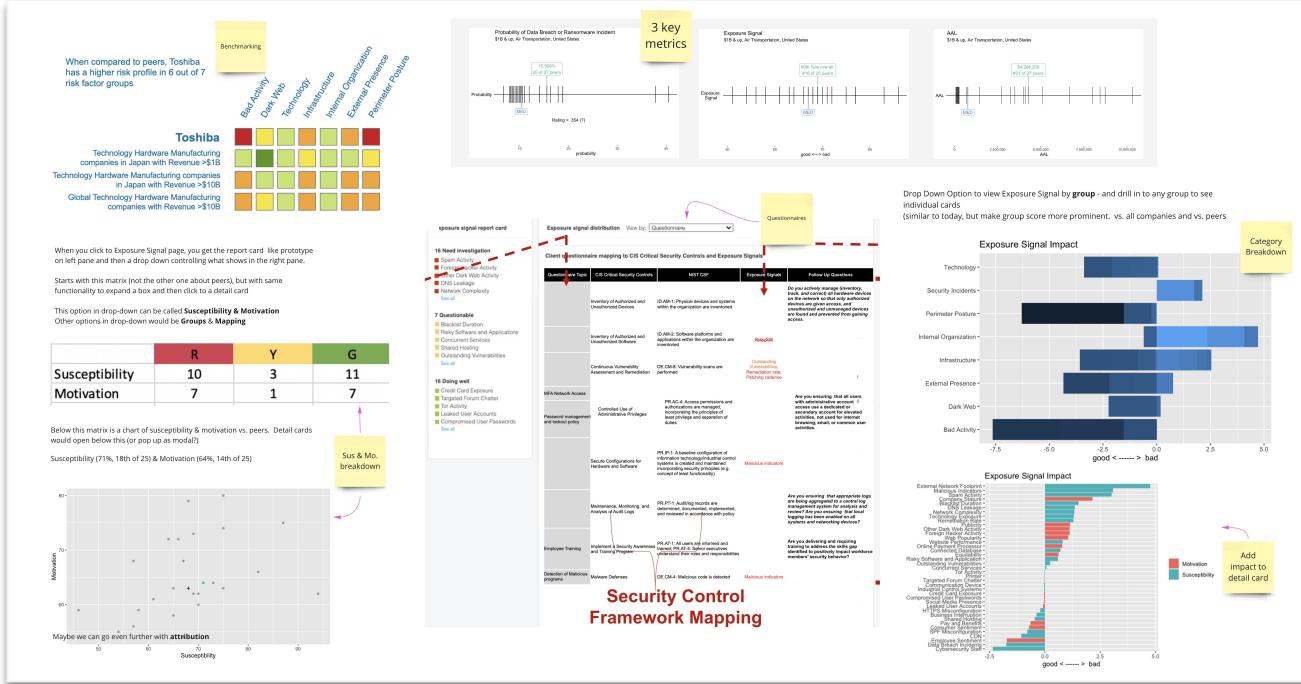
Old vs New User Experience

Proposed Solution

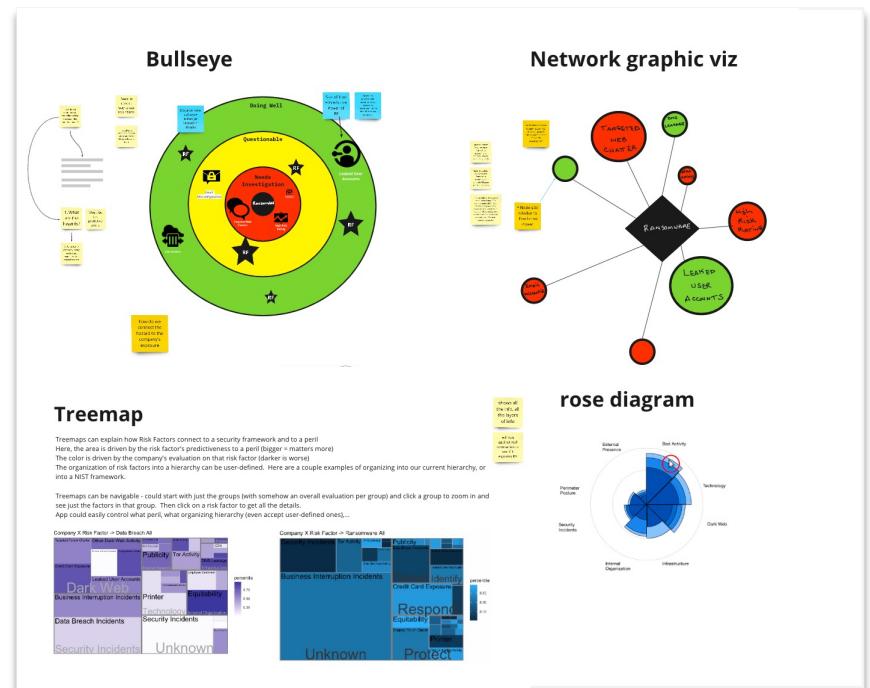
- Provide users a clear representation about the correlation of different data though out the UI.
- Provide a new overview page with most important information in order to increase productivity.
- Provide help text to users in order to understand the usage of information along with actionable steps which can them to move further in process.
- Provide users a new experience for the downloadable report format similar to new UI.

Ideation Board

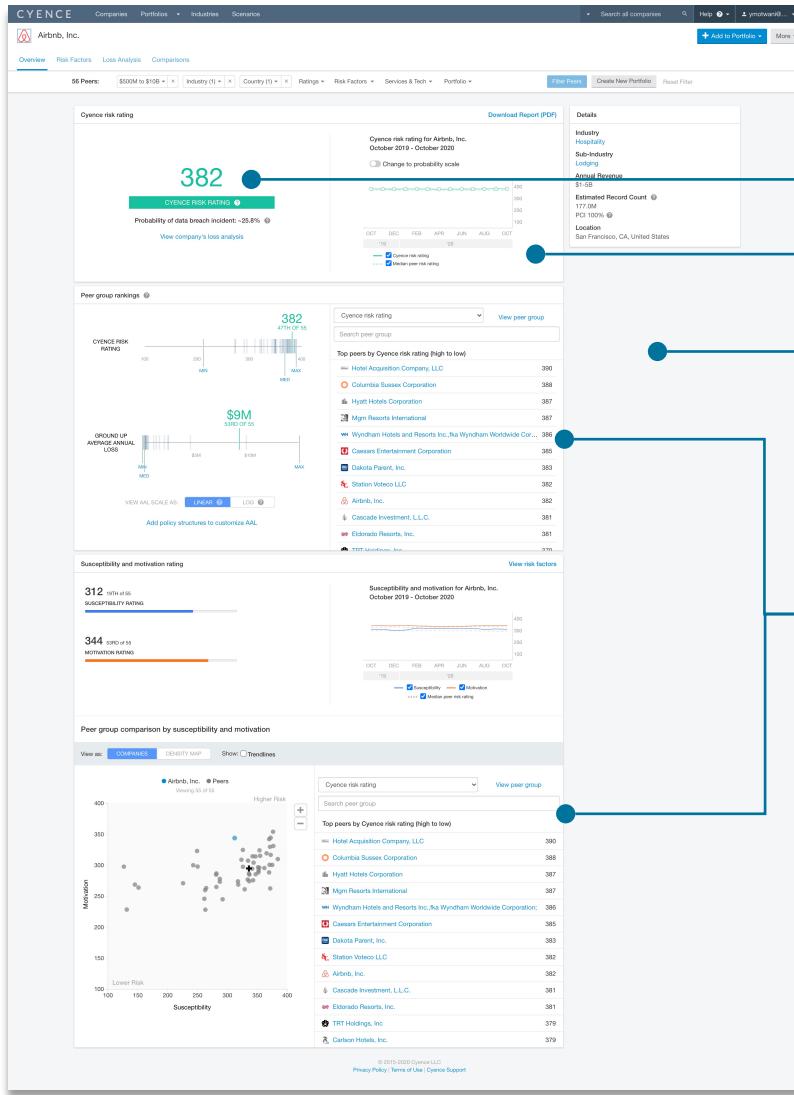
Ideas brainstorming



Data viz explorations

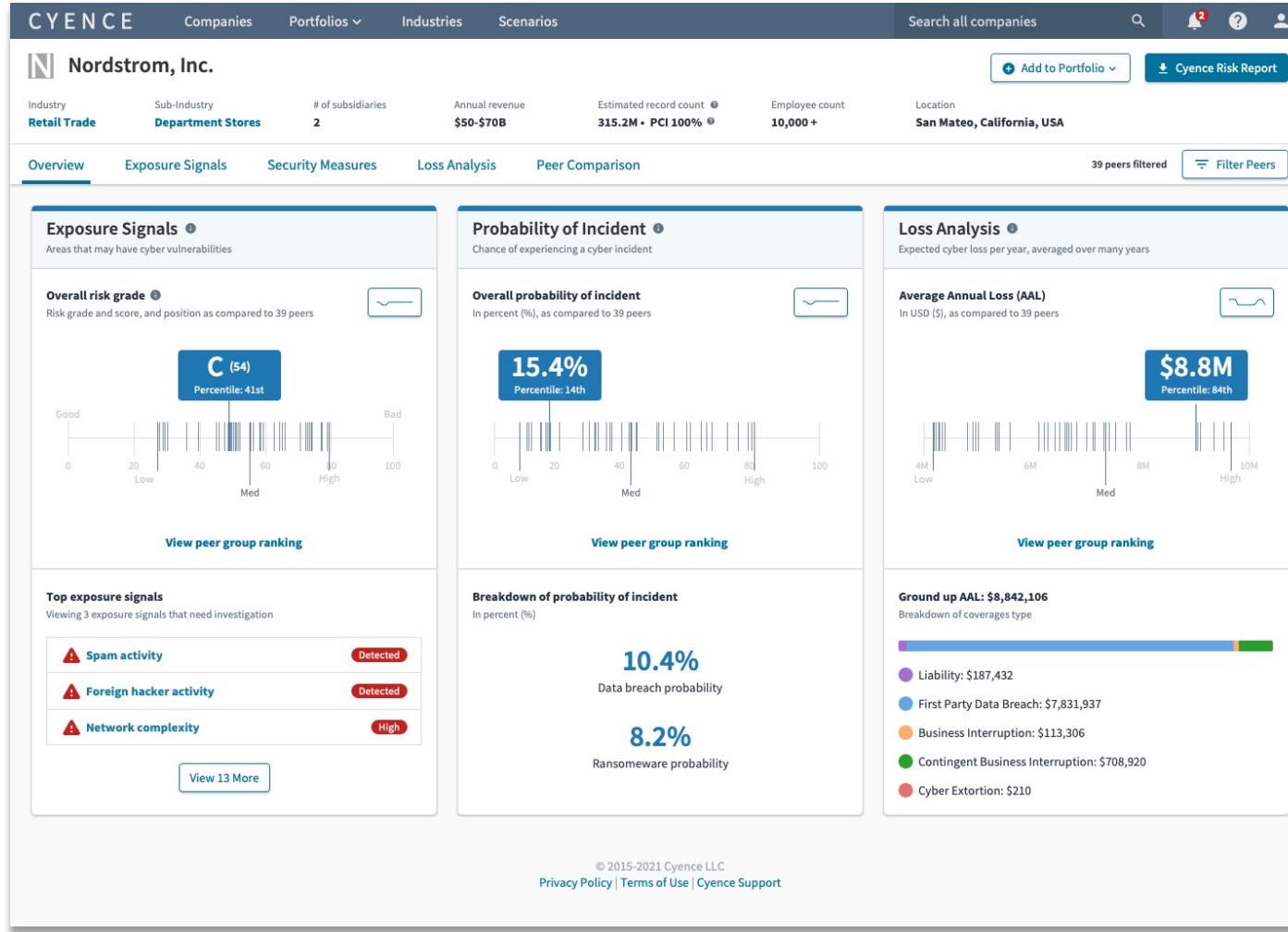


Problem with older UX



- A primary metrics which is usually misunderstood by underwriters
- Historical trend is a secondary information but highly emphasized
- A lot of white space and unnecessary scrolling
- Repeated information and list of ranking which is not used that often

Company Overview

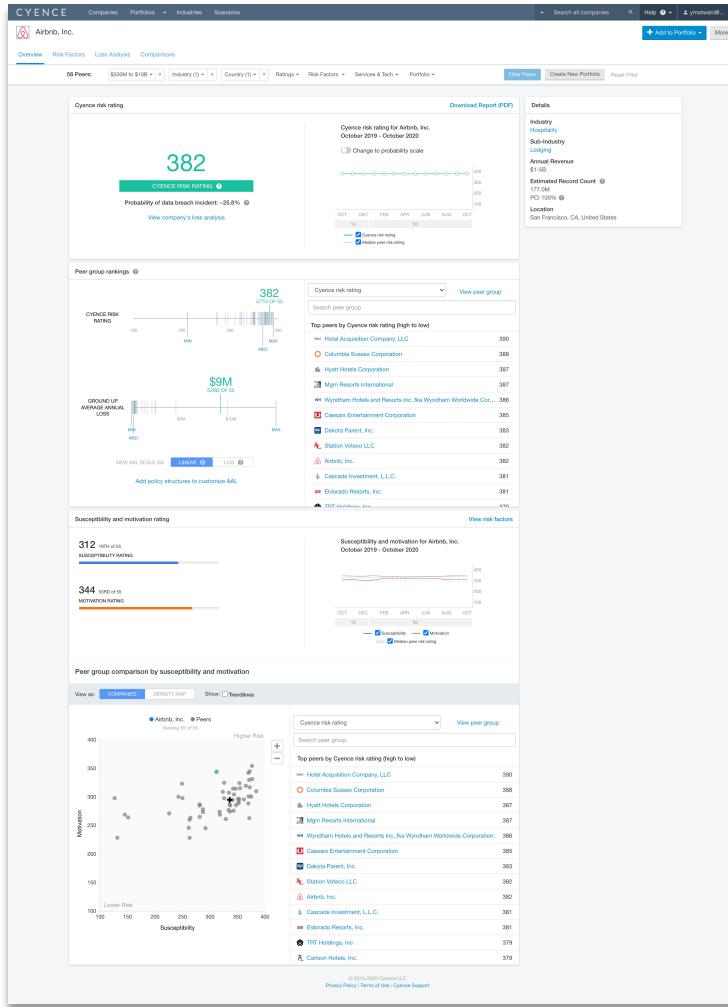


As part of the overview refresh, we introduced following improvements:

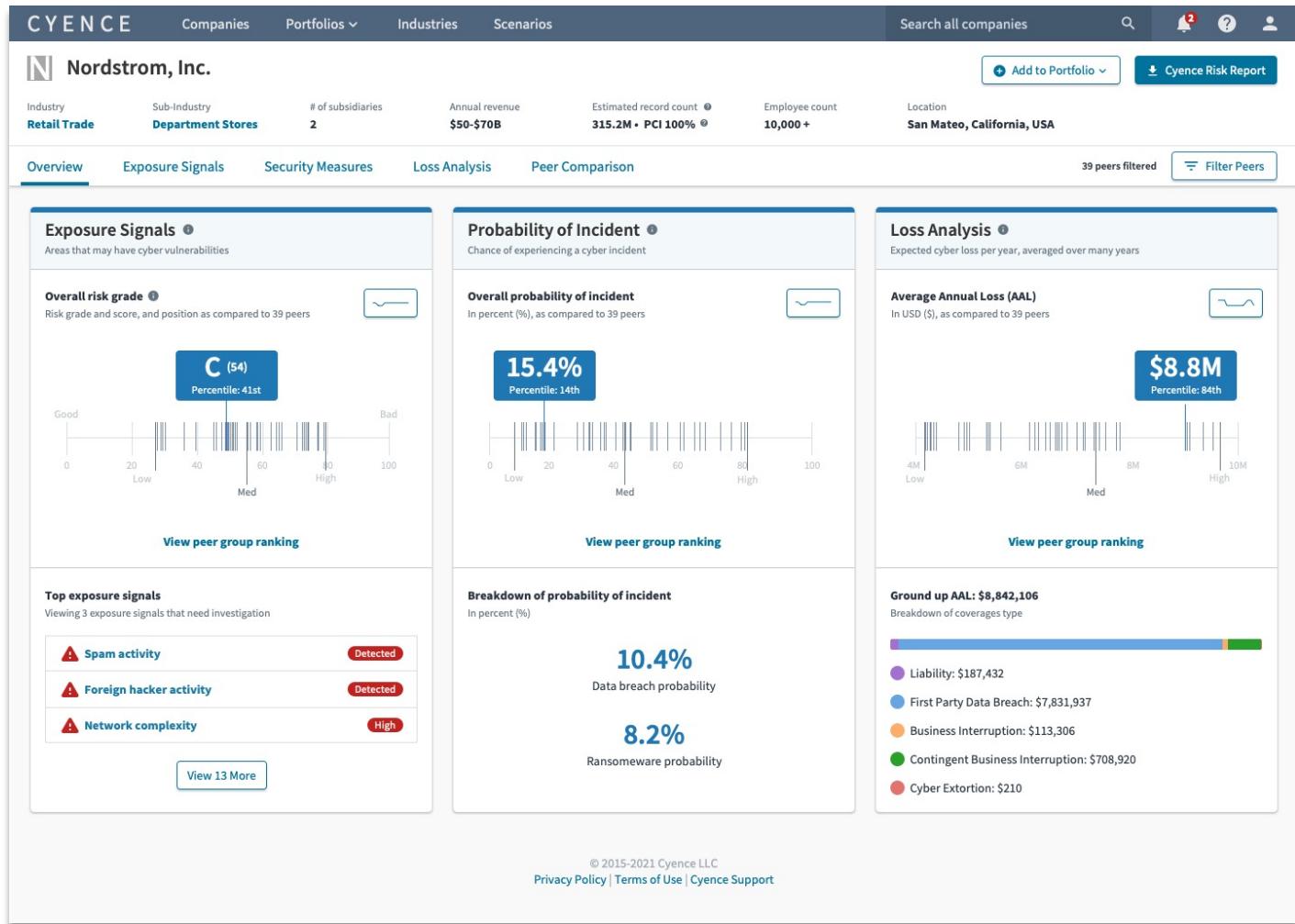
- New **hierarchy of information** to highlight the most important information up front.
- New **3 column layout** to provide the distinction of **3 different data points** to identify risk.
- New **data points** to replace some older ones and to provide further details on others.
- **Sparkline graphs to show the history** trendlines for those risk data points which helped UX to be more sleek and newer.

Company Overview – Old vs New UX

Old UX



New UX



Problem with older UX

The screenshot shows the CYENCE platform interface for Airbnb, Inc. The top navigation bar includes 'Companies', 'Portfolios', 'Industries', 'Scenarios', 'Search all companies', 'Help', and a user profile. Below the navigation is a search bar with filters: '56 Peers', '\$500M to \$1B+', 'Industry (1)', 'Country (1)', 'Ratings', 'Risk Factors', 'Services & Tech', 'Portfolio', 'Filter Peers', 'Create New Portfolio', and 'Reset Filter'. The main content area is titled 'Top risk factors' and is divided into 'Positive Risk Factors' and 'Negative Risk Factors'. Under 'Positive Risk Factors', there is one item: 'Infrastructure' with 'CDN @ - Present'. Under 'Negative Risk Factors', there are two items: 'Dark Web' with 'Compromised User Passwords @ - Detected' and 'Leaked User Accounts @ - Detected'. To the right of these sections is a 'Services & technologies' sidebar listing 'Service provider (5)' (Akamai, Cloudflare, Amazon Virginia, CloudFront), 'Software (17)' (Apache HTTP Server, Dovecot, Drupal), and 'Payment processor (13)' (Adyen, Alipay, American Express). At the bottom of the page, there is a section titled 'All risk factors' with various categories like 'Bad Activity @ - Improved', 'Dark Web @ - Unchanged', 'Technology @ - Unchanged', etc., each with a progress bar and a percentage of peers being better.

Underwriters didn't care about positive risk factors

A lot of white space and unnecessary scrolling

Showed high impact categories but not individual risk factors.
Users didn't know how to find most concerning risk factor.

Exposure Signals (Risk Factors)

The screenshot shows the Cyence app interface for Nordstrom, Inc. at the top, displaying company details like Industry (Retail Trade), Sub-Industry (Department Stores), # of subsidiaries (2), Annual revenue (\$50-\$70B), Estimated record count (315.2M+ PCI 100%), Employee count (10,000+), and Location (San Mateo, California, USA). Below this, the 'Exposure Signals' tab is selected in a navigation bar with other options: Overview, Exposure Signals, Security Measures, Loss Analysis, and Peer Comparison. A search bar and a 'Cyence Risk Report' button are also present. The main content area is titled 'Exposure Signal Breakdown' and shows an overall exposure signal of C (54) with 41% of peers being better. It lists categories with risk grades and peer comparison percentages: Technology (D (74), 79% of peers are better), Security Incidents (D (79), 82% of peers are better), Perimeter Exposure (B (28), 27% of peers are better), Internal Organizations (A (18), 13% of peers are better), Infrastructure (B (33), 32% of peers are better), External Presence (C (64), 53% of peers are better), Dark Web (A (12), No peers are better), and Bad Activity (C (69), 71% of peers are better). Below this is the 'Exposure Signal Report Card' section, which includes a summary table for 'Worse than Peers' (6 red, 2 yellow, 2 green), 'Similar to Peers' (9 red, 4 yellow, 13 green), and 'Better than Peers' (1 red, 1 yellow, 1 green). It also lists categories under 'Needs investigation' (16 items) and 'Suspicious' (7 items), and a final section for 'No issues' (16 items).

Exposure Signals is the most used page in the app, and as part of improvement we wanted to make this more effective and useful for our users by introducing:

- The new prioritization was based on type of signal and severity. The prioritization criteria was changed and tested as part of this UX refresh.
- Report card, so the users can easily navigate through most concerning risks.
- A tree view for underwriters to identify the most vulnerable risk through grading and risk impact.
- Security Measures to provide our users a set of follow up questions they can ask to their customers to mitigate the risk.

Exposure Signals – Old vs New UX

Old UX

New UX

CYENCE Companies Portfolios Industries Scenarios Search all companies

Nordstrom, Inc.

Industry: **Retail Trade** Sub-Industry: **Department Stores** # of subsidiaries: **2** Annual revenue: **\$50–\$70B** Estimated record count: **315.2M + PCI 100%** Employee count: **10,000+** Location: **San Mateo, California, USA**

Add to Portfolio Cyence Risk Report

Overview Exposure Signals Security Measures Loss Analysis Peer Comparison 39 peers filtered Filter Peers

Exposure Signal Breakdown

Overall Exposure Signal: **C (54)** Categories: **Technology** Risk Grade: **D (74)** Peer Comparison: **79% of peers are better**

Exposure Signals Status Impact

- Online Payment Processor**: Detected
- Risky Software and Applications**: Restrained
- Connected Database**: Not Detected
- Technology Exposure**: Low
- Communication Device**: Not detected
- Exposed Printers**: Not detected

Exposure Signal Report Card
Total Exposure Signals: 39

Worse than Peers	Similar to Peers	Better than Peers
6	9	1
2	4	1
2	13	1

Needs investigation (16) View All

- ⚠ Spam Activity
- ⚠ Compromised User Passwords
- ⚠ DNS Leakage

Suspicious (?) View All

- ⚠ Network Complexity
- ⚠ Risky Software and Applications
- ⚠ Shared Hosting

No issues (16) View All

- ✓ HTTPS Misconfiguration
- ✓ Targeted Forum Chatter
- ✓ Connected Database

All (39) Pinned (2) Search Exposure Signal Expand All

⚠ Spam Activity Detected
Propagation of unsolicited junk email distributed to a large number of recipients

Mail servers being used to distribute spam may indicate system misconfiguration or compromised user credentials, which puts the company at risk

IP Address detected:
48.155.250.79
214.46.244.249
196.64.8.69
109.219.90.255

Underwriting Considerations
Questionnaire and actions we recommend based on different security frameworks like CIS and NIST.

Ask your client:

- Do you block all email attachments entering your org's email gateway if the file types are unnecessary for the organization's business?
- Do we use sandboxing to analyze and block inbound email attachments with malicious behavior?
- Do you use DNS filtering services to help block access to malicious domains?

Was it helpful?

Signal Category: Bad Activity

Signal type: Susceptibility

Signal impact:

Peer group comparison:

Status in last 3 months: **Unchanged**

SEP 2020 OCT 2020 NOV 2020

Security control mapping

CIS: CSC7, CSC13, CSC17
NIST: ID-AM, DE-CM, PR-DS, PR-AC

Downloadable Report

Old UX

Nordstrom, Inc.
Cyence Unique ID: b3d5e9f9
Report generated on December 14, 2020
with data from November 2020

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CYENCE

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Company Overview
Nordstrom, Inc.
Cyence Unique ID: b3d5e9f9

Company Overview

Cyence Risk Rating	Susceptibility Rating	Motivation Rating
388 Out of 400	368 Out of 400	347 Out of 400
Peer range: 335-390	Peer range: 290-379	Peer range: 251-357
Peer median: 376	Peer median: 334	Peer median: 311

See following report for further details.

Company Details

Details

Industry: Retail Trade
Sub-Industry: Department Stores
Annual Revenue: \$10.5B
Estimated Record Count: 262.4M
PCI 100%
Location: Seattle, WA, United States

Services & Technologies

Service provider (1 found)
Software (22 found)
Payment processor (5 found)
Auditor (1 found)

Refer to the Appendix for full listing of Services and Technologies.

CYENCE

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Company Overview: Risk Overview
Nordstrom, Inc.
Cyence Unique ID: b3d5e9f9

Risk Overview

Cyence Risk Rating
388 Out of 400
Peer range: 335-390
Peer median: 376

Risk Rating

The Risk Rating is a measure of a company's cyber risk, or the likelihood that it would experience a network security incident or unintentional release of protected information. This is derived from a combination of three main factors: Susceptibility, Motivation, and Risk Factors. Based on a 100-400 scale, a higher Risk Rating indicates greater risk.

Probability of Data Breach
~36.4%

The Probability of Data Breach is mapped to the Cyence Risk Rating. This represents the probability of a company having at least one incident over the next 12 months. Probabilities are estimated and actual probabilities may vary.

37th of 39
Among its peer group of 39 companies

Peer Risk Comparison

Peers of Nordstrom, Inc. have Risk Ratings ranging from 335 to 390. The median Risk Rating among peers is 376.

Refer to the Appendix for peer group details.

CYENCE

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Company Overview: Risk Overview
Nordstrom, Inc.
Cyence Unique ID: b3d5e9f9

Historical Rating Over Time

Risk

NOV '19 JUN '20 MAR '20 MAY '20 JUL '20 SEP '20 NOV '20

Historical Probability Over Time

Probability

NOV '19 JUN '20 MAR '20 MAY '20 JUL '20 SEP '20 NOV '20

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Risk Factors: Top Risk Factors
Nordstrom, Inc.
Cyence Unique ID: b3d5e9f9

Top Risk Factors

Top Risk Factors are the most significant factors impacting a company's Risk Rating. Positive Risk Factors are those that reduce a company's Risk Rating, while Negative Risk Factors are those that increase a company's Risk Rating.

Positive Risk Factors

Info - Present
CDN - Present
CDNs offer redundancy and the ability to absorb or neutralize potential threats to a site (like DDoS), diversifying the company's risk through an added layer of security.

Infrastructure
SPF Misconfiguration - Not detected
A correctly aligned SPF record in the Domain Name System protects the company against email spoofing. The absence or improper configuration of SPF exposes the company to fraudulent use of its domain name for spam and phishing emails carrying fake sender addresses.

Internal Organization
Employee Sentiment - Content workforce
Employees are responsible for a significant portion of cybersecurity breaches, either deliberately by performing the attack or accidentally through carelessness or hubris, or unwittingly (by engaging in risky behavior or falling victim to social engineering tactics). Poor internal sentiment increases not only the likelihood of inside job hacks, and also the risk of external attacks that prey on human error.

Negative Risk Factors

Bad Activity - Detected
Malicious actors using tools to distribute spam may indicate system misconfiguration or compromised user credentials, which puts the company at risk.

Dark Web
Compromised User Passwords - Detected
Combinations of employee usernames and passwords may be used by malicious actors to gain access to corporate accounts, especially given the prevalence of password reuse.

External Presence
Company Statute - Extensive footprint
A company who holds top-of-mind awareness with the public also makes a more striking target in the eyes of criminal hackers.

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Downloadable Report

New UX



Cyence Risk Report for
Care Wear, Inc.

Unique ID: bdqoeybjreq
Report generated on February 26, 2020
with data from November 2019

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Company Overview

Care Wear, Inc.

Company Overview

Industry: Retail Trade
Sub-Industry: Apparel Retailers
Annual Revenue: \$10-50B

Estimated Record Count: 262.4M
PCI 100%
Location: Seattle, WA, United States

Risk Overview

Risk Rating

310 of 400

Based on 15.4% probability

Probability of Incident

15.4%

Probability in percent (%)

Average Annual Loss

\$8.1m

Losses in USD (\$)

51st Percentile

Peer range: 290-400
Peer median: 320

72nd Percentile

Peer range: \$3.1 - 9.4m
Peer median: \$5.3m

Change in history

Top Exposure Signals

Based on peer comparison

Needs investigation

- Spam activity** Propagation of unsolicited junk email distributed to a large number of recipients Detected
- Foreign hacker activity** Discussions about the company conducted in non-English forums (such as Russian, Chinese, etc.) Detected
- Network Complexity** Measure of breadth and intricacy of the company's external network based on an evaluation of its DNS (Domain Name System) hierarchy High

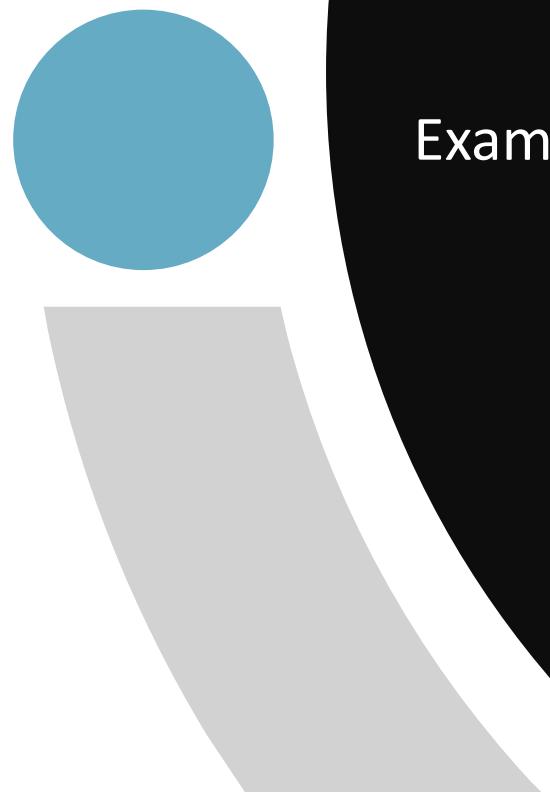
Suspicious

- Network Complexity** Lorem ipsum is simply dummy text of the printing and typesetting industry. Detected
- Risky Software and Applications** Lorem ipsum is simply dummy text of the printing and typesetting industry. Lorem ipsum has been the industry's standard dummy. Detected
- Shared Hosting** Lorem ipsum is simply dummy text of the printing and typesetting industry. Lorem ipsum has been the industry's standard dummy text ever since the 1500s. High

Care Wear, Inc.
Cyence Unique ID: bdqoeybjreq
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Page 2 of 35

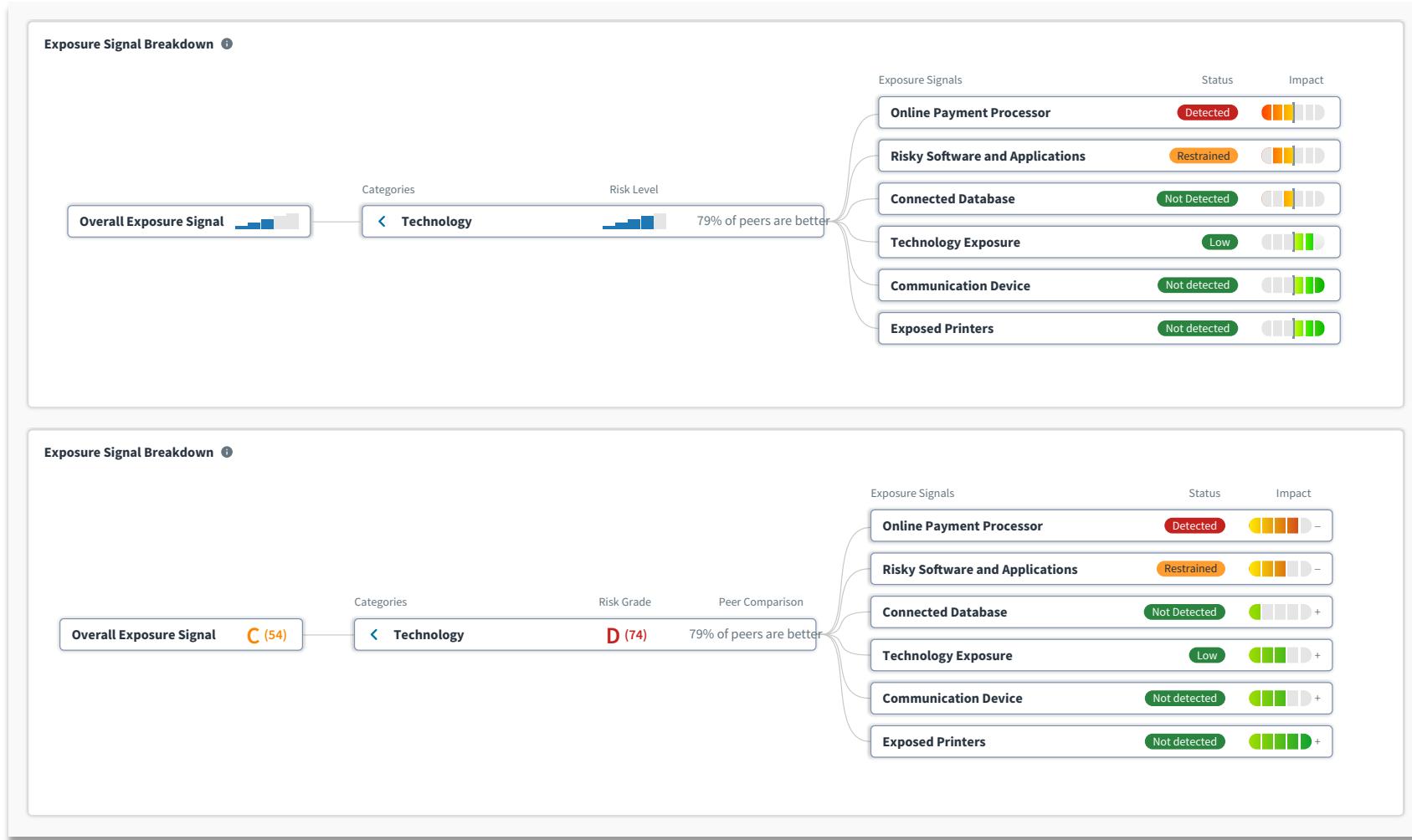
Care Wear, Inc.
Cyence Unique ID: bdqoeybjreq
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Page 3 of 35

Usability Testing



Example of design reiteration

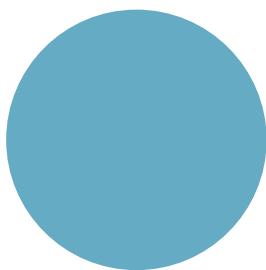
Risk Rating (Graph vs Grading)



We conducted A/B testing for deciding different data visualization and risk scaling system.

We ended up with Grading system because users were interested in granular differences of different risk level.

Onboarding Design



Onboarding guide and in app UI feedback

Onboarding Design Process

List features & define steps

Create & review content

Create & publish guide

Topics	Changes	Pendo Walkthrough
Overview page (3 column layout)	<ul style="list-style-type: none"> 1. Top 3 exposure signals and security measures questionnaire snippet 2. Probability of incident (including DB and RW breakdown) along with Risk Rating. 3. Loss Analysis with AAL and Breakdown of coverages 	<p>Step 1: Highlevel 3 layout</p> <p>Step 2: New historical trend line</p>
Exposure Signal page	<ul style="list-style-type: none"> 1. Interactive Report Card <ul style="list-style-type: none"> ◦ View by peer comparison ◦ View by Sus/Mo. ◦ Top 3 exposure signals of High, Medium, Low type 2. Exposure signal detail changes <ul style="list-style-type: none"> ◦ Icons in addition to color for High, Medium, Low ◦ Updated UI view on closed card ◦ Past 3 month changes instead of 2 previously ◦ Security Measure questionnaire ◦ Security control mapping 	<p>Step 3: Report Card</p> <p>Step 4: In context security measures and control mapping.</p>
Security Measures page	<ul style="list-style-type: none"> 1. NIST/CIS Security Measures <ul style="list-style-type: none"> ◦ Common questionnaire for both frameworks ◦ Downloadable questionnaire ◦ Search for ESig withing Security Measures ◦ Default sorting of ESig from High-Low 	<p>Step 5: What is Security Measures?</p> <p>Step 6: Downloadable questionnaire.</p>
Peer Comparison page	<ul style="list-style-type: none"> 1. Sus/Mo (previously in overview page) in collapsed container 2. List of filtered peers 3. Company compare (Same as before) 	Step 7: Moved Sus/Mo.

Cyence Onboarding Guide

1. What's New

We are proud to announce several new features for Cyence. 😊

1. On-demand assessments for new companies can be made directly from the application
 2. Introducing the Underwriter Dashboard in the company 'Overview' page
 3. Risk Factors are referred to as Exposure Signals
 4. Exposure Signals are mapped to NIST & CIS cyber security frameworks and include actionable next steps

We encourage you to walk through the Quick Guide to familiarize yourself with the new user experience.

[Start Quick Guide](#)

2. On-Demand Assessments 📈

<GIF on how to access and request an assessment>

Unable to find a company in Cyence? You can now request an On-Demand Assessment for a new company directly from the application and review the results in minutes!

[Next: Updates to the company Overview page](#) [Continue](#)

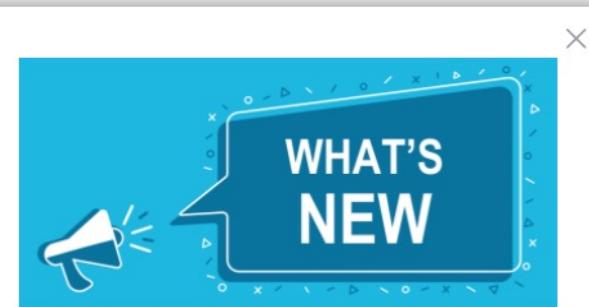
3. Introducing Underwriters Dashboard

The company overview page is now updated to highlight the three methods by which to evaluate cyber risk. These include:

1. Exposure Signals
2. Probability of Incident (Risk Rating)
3. Loss Analysis

You can learn more about each method by clicking help icons (?) within dashboard.

[Back](#) [Next: Updates to the Cyence Risk Report \(PDF\)](#) [Continue](#)



We are proud to announce several new features for Cyence. 😊

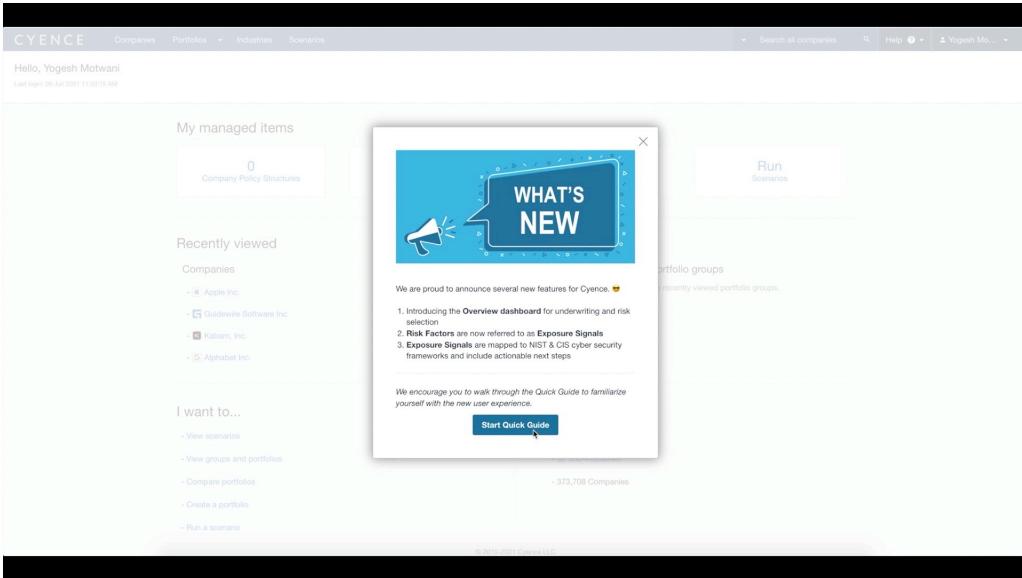
1. Introducing the **Overview dashboard** for underwriting and risk selection
2. **Risk Factors** are now referred to as **Exposure Signals**
3. **Exposure Signals** are mapped to NIST & CIS cyber security frameworks and include actionable next steps

We encourage you to walk through the Quick Guide to familiarize yourself with the new user experience.

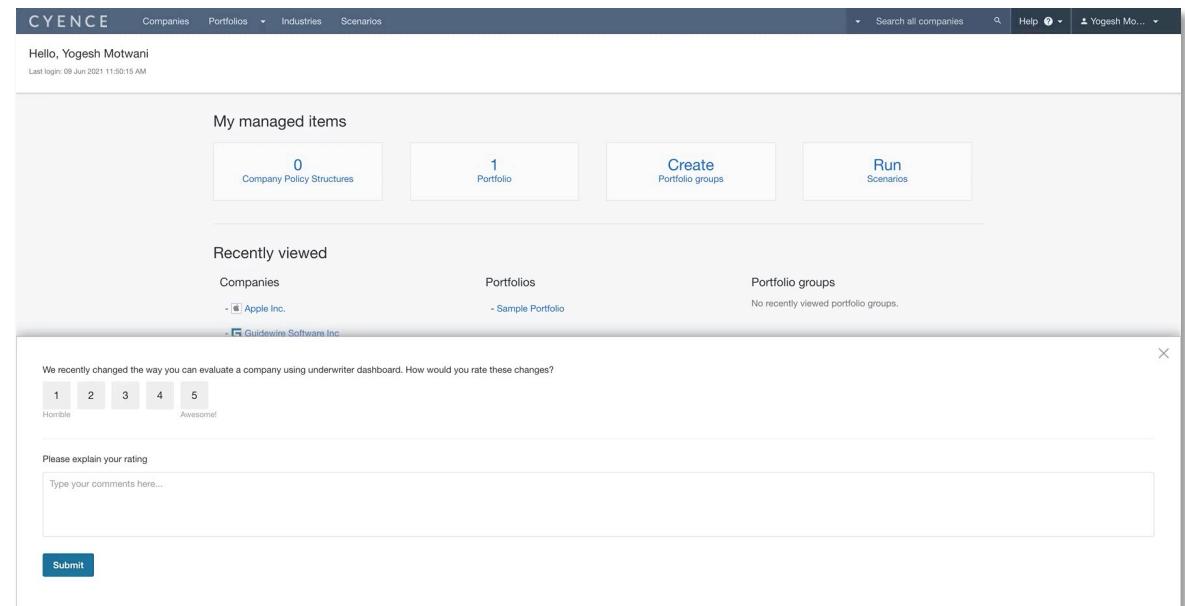
[Start Quick Guide](#)

Onboarding Design Samples

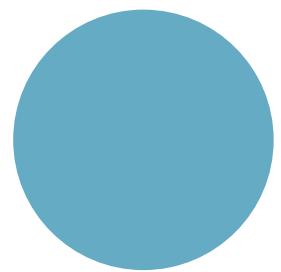
Onboarding Guide



In app UI Feedback

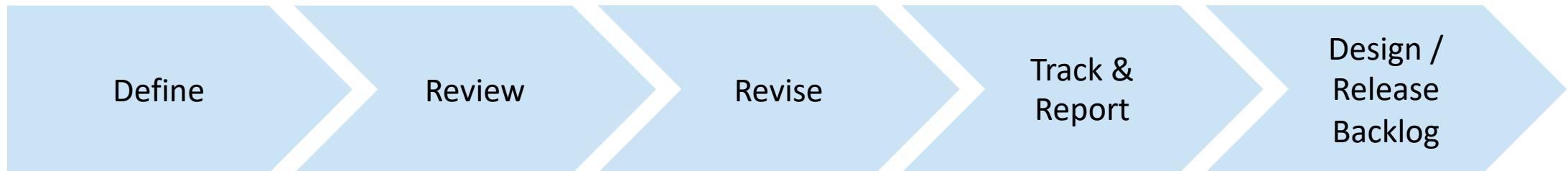


Product Success Metrics



Process and key insights

Defining product success matrix



Some key insights

Month-over-month comparison

JUNE 2021 TO JULY 2021

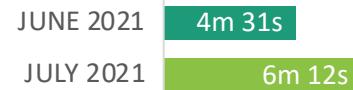
Unique Companies Viewed

↑ 21%



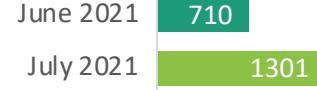
Average Time Spent on Company Overview page

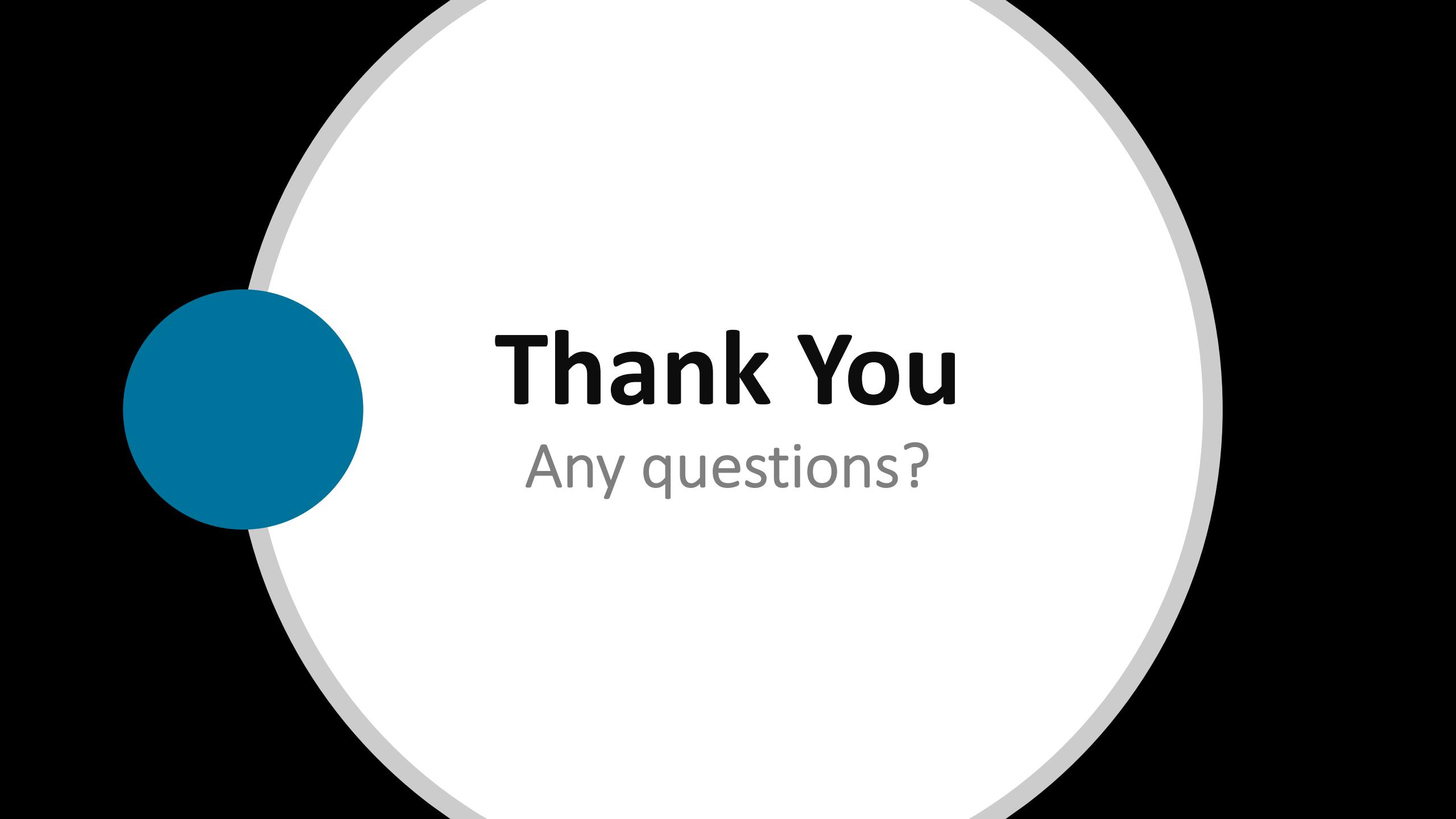
↑ 49%



Report Downloads

↑ 83%





Thank You

Any questions?