

Predictive-Based Safety

A Modern Approach to Construction Risk Management

NW CCC Presentation
September 9, 2021



GARY GREENBERGER, SVP SALES



- 3rd AEC startups
 - Former VP Sales:
 - Constructware/Autodesk
 - Citadon, CTSpace
 - Vela Systems/Autodesk
- Domain knowledge (construction)
- ggreenberger@newmetrix.com
- Today's Presentation: Predictive-Based Safety

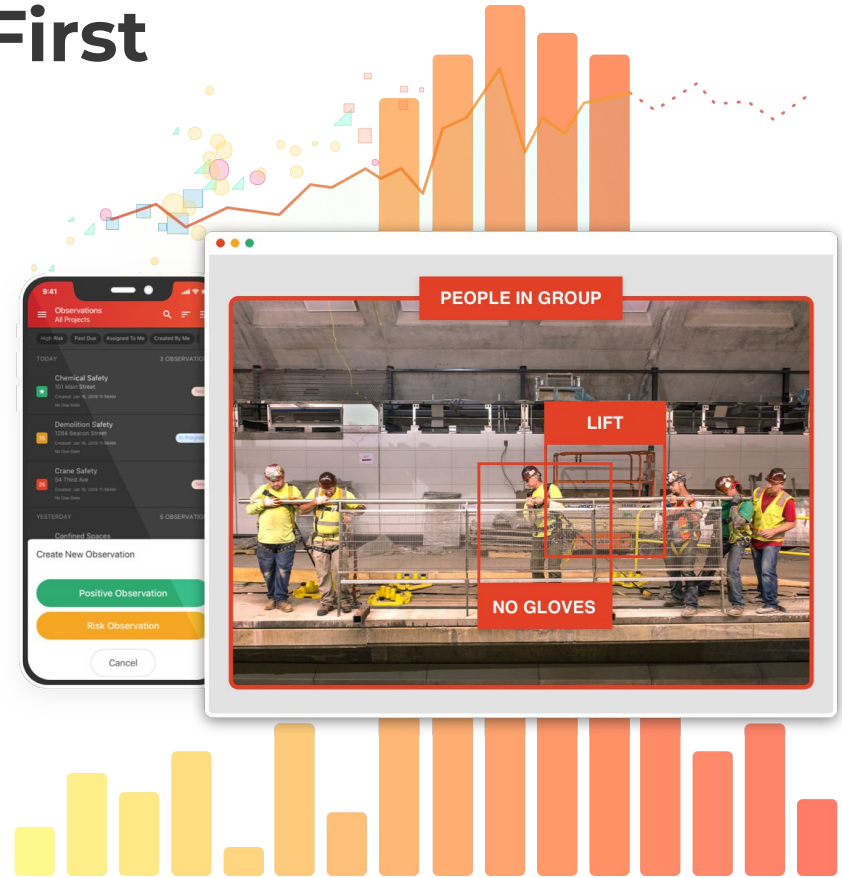
Critical Success Factors to Keep in Mind

- Does your Executive Team value data driven analytics to make decisions?
- Will Operations be supporters of PBS?
- Will Safety be supporters of PBS?

Note: PBS = Predictive-Based Safety

Our Philosophy - People First

- Using the most advanced technology to improve safety
- Leveraging 12 *centuries* of construction data benchmarked & analyzed
- Developing AI built from the ground up with construction in mind



Our 'Why'

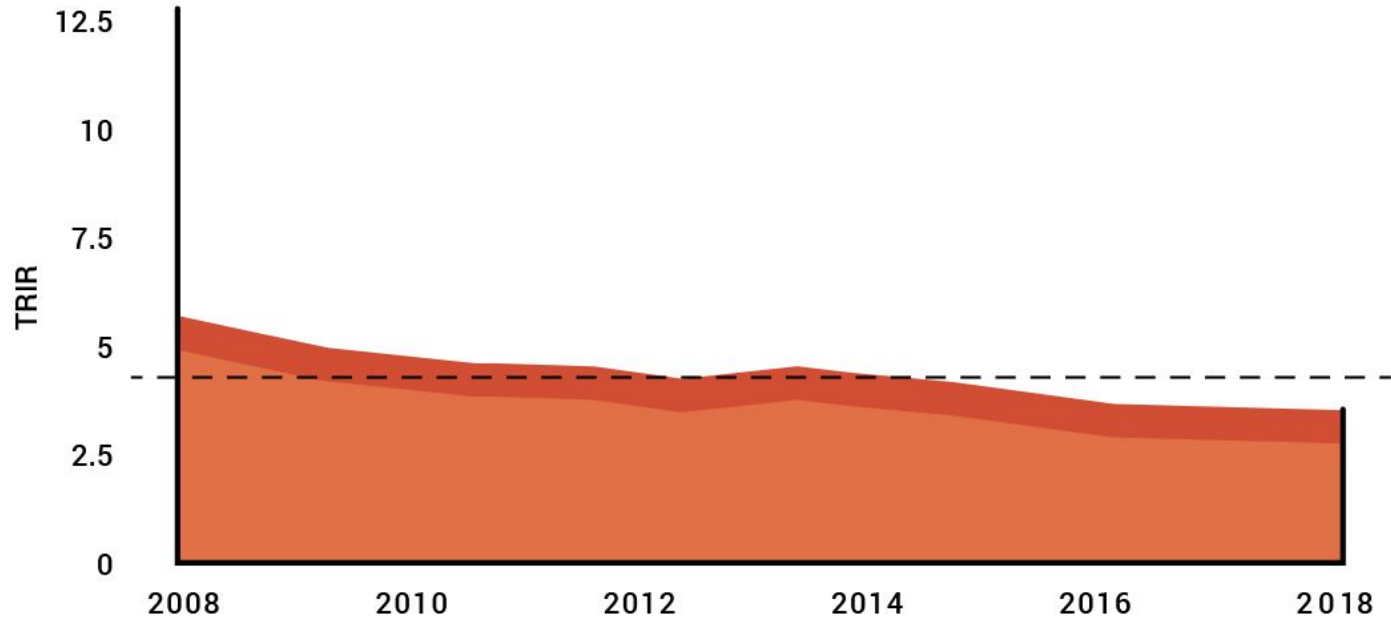
Source: U.S. Bureau of Labor Statistics, U.S. Department of Labor, Construction Industry Only, Year 2019



The 'Why'

TRIR for the Construction Industry unchanged in 10 years

Source: US Bureau of Labor Statistics, US Department of Labor



What is Predictive-Based Safety (PBS)

PBS **uses data already collected** to extract insights that drive actions at the project level resulting in saving lives, reducing risk and saving money.



Newmetrix Value Proposition

- Leverage and optimize current investment in technology
- Unlock the power of your data
- Reduce safety incidents - \$50K per severe incident
- Improve operational efficiency - “virtual safety assistant”
- Leverage AI to identify safety risks & predict future incidents
- “Easy to use” data integrations

What Data is Used?

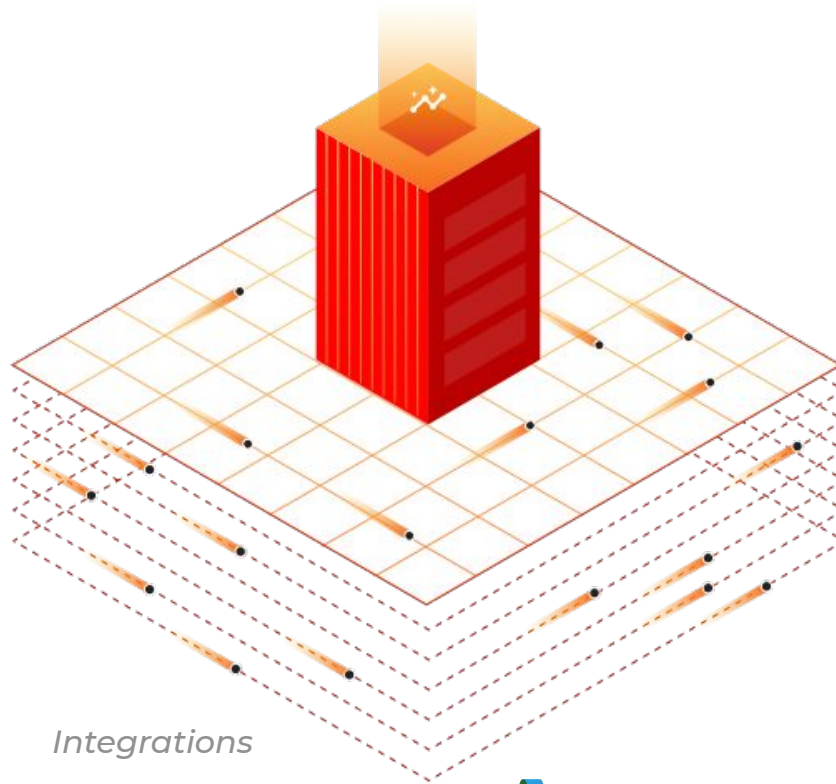
SAFETY
MONITORING



SAFETY
OBSERVATIONS



SAFETY
INCIDENTS



SCHEDULE
DATA



PRODUCTION
DATA



WEATHER
DATA



EMPLOYEE
TIMECARDS

Integrations

PROCORE

AUTODESK

NEWMETRIX



ConstructionSite



SharePoint

ORACLE

box

EGNYTE

Our Models Are Accurate

We are able to identify which...

20% 

...of your active projects will have over...

80% 

...of your incidents...

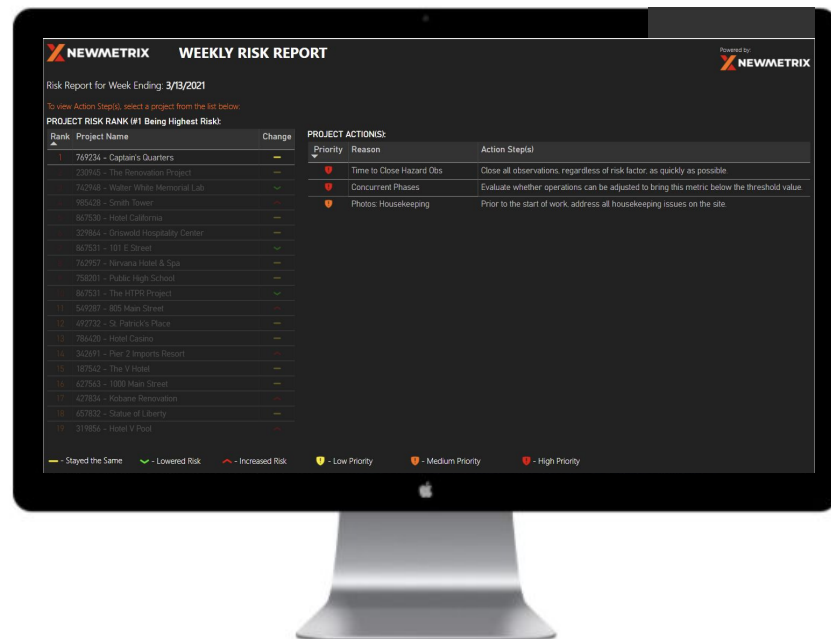
...every week

How Does it Work?

Predictive-Based Safety uses data to **drive action**.

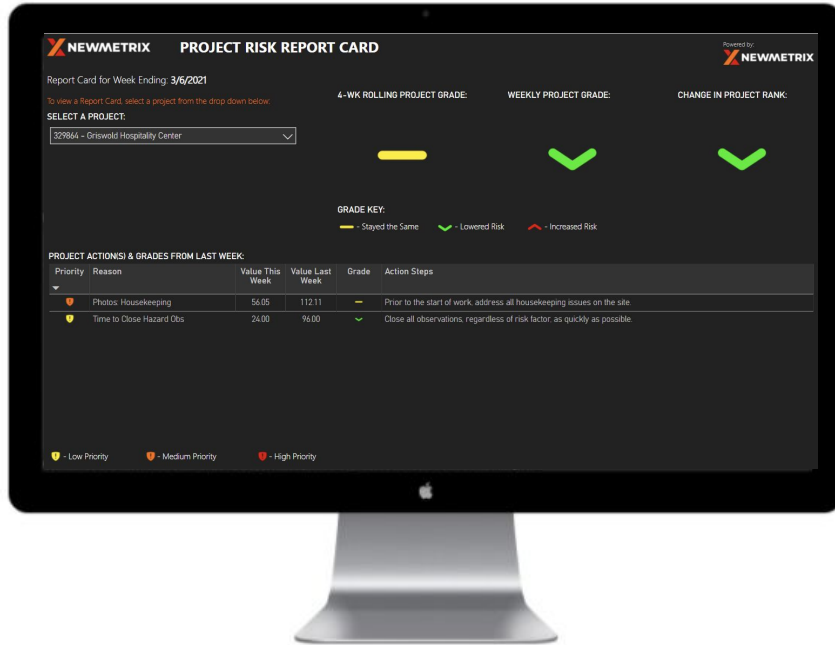
Each week...

- All **projects** are **risk-ranked** by the model
- **Action items** are listed in order of urgency
- The project and safety teams work to address each action item **reducing risk**



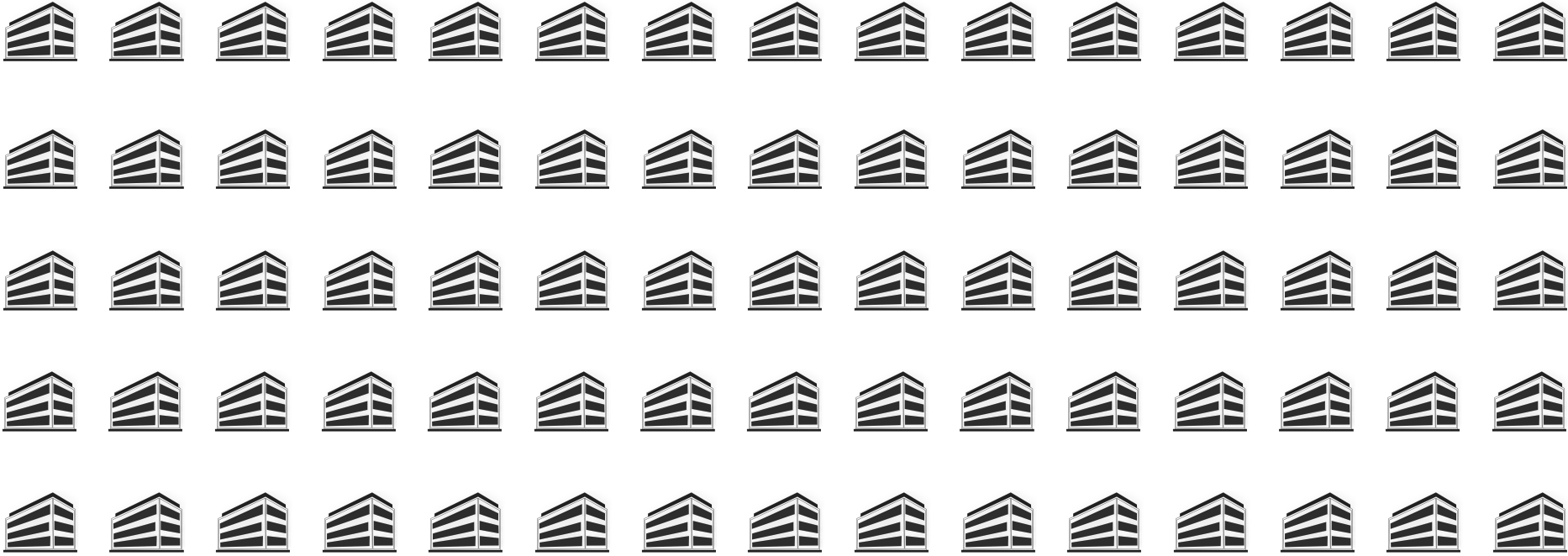
How Does it Work?

The model also provides feedback on **project** performance...



- Projects are graded on **completion** of each action item
- This gives projects insight into the **effectiveness** of their efforts
- Provides **visibility** into project performance to executives

Know **Where** to Place Your Bets (Attention)



Focus on the Riskiest Projects



Know **What** Conversations to Have

...At each jobsite:

- Foreman to Worker Ratio
- High Risk Observations
- Work at Height Photos
- Project Team Average Hours Worked
- Recent Severe Incidents
- Craft Observation Rate per Man Hour



Risk Report for Week Ending: 3/13/2021

To view Action Step(s), select a project from the list below:

PROJECT RISK RANK (#1 Being Highest Risk):

Rank	Project Name	Change
1	769234 - Captain's Quarters	—
2	230945 - The Renovation Project	—
3	742948 - Walter White Memorial Lab	✓
4	985428 - Smith Tower	⬆
5	867530 - Hotel California	—
6	329864 - Griswold Hospitality Center	—
7	867531 - 101 E Street	✓
8	762957 - Nirvana Hotel & Spa	—
9	758201 - Public High School	—
10	867531 - The HTPR Project	✓
11	549287 - 805 Main Street	⬆
12	492732 - St. Patrick's Place	—
13	786420 - Hotel Casino	—
14	342691 - Pier 2 Imports Resort	⬆
15	187542 - The V Hotel	—
16	627563 - 1000 Main Street	—
17	427834 - Kobane Renovation	⬆
18	657832 - Statue of Liberty	—
19	319856 - Hotel V Pool	⬆

PROJECT ACTION(S):

Priority	Reason	Action Step(s)
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Please select a project from the list to the left.

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PROJECT ACTION(S):

Priority	Reason	Action Step(s)
🔴	Time to Close Hazard Obs	Close all observations, regardless of risk factor, as quickly as possible.
🔴	Concurrent Phases	Evaluate whether operations can be adjusted to bring this metric below the threshold value.
🟡	Photos: Housekeeping	Prior to the start of work, address all housekeeping issues on the site.

— - Stayed the Same

✓ - Lowered Risk

⬇ - Increased Risk

🟡 - Low Priority

🟠 - Medium Priority

🔴 - High Priority

Report Card for Week Ending: 3/6/2021

To view a Report Card, select a project from the drop down below:

SELECT A PROJECT:

329864 - Griswold Hospitality Center

4-WK ROLLING PROJECT GRADE:



WEEKLY PROJECT GRADE:



CHANGE IN PROJECT RANK:



GRADE KEY:

— - Stayed the Same

✓ - Lowered Risk

▲ - Increased Risk

PROJECT ACTION(S) & GRADES FROM LAST WEEK:

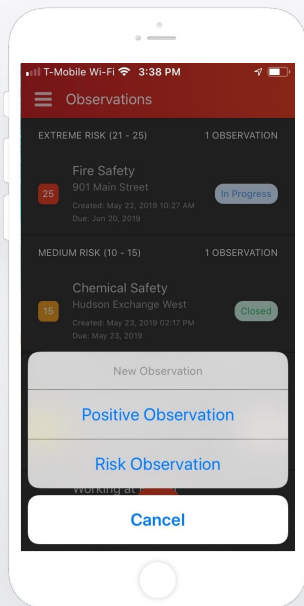
Priority	Reason	Value This Week	Value Last Week	Grade	Action Steps
▼					
🔴	Photos: Housekeeping	56.05	112.11	—	Prior to the start of work, address all housekeeping issues on the site.
🟡	Time to Close Hazard Obs	24.00	96.00	✓	Close all observations, regardless of risk factor, as quickly as possible.

🟡 - Low Priority

🔴 - Medium Priority

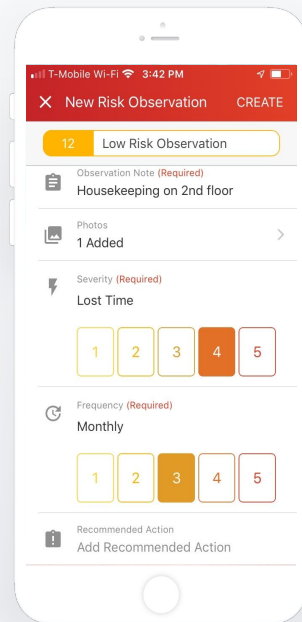
🔴 - High Priority

ACTION STEPS DELIVERED VIA ALERTS



Configurable

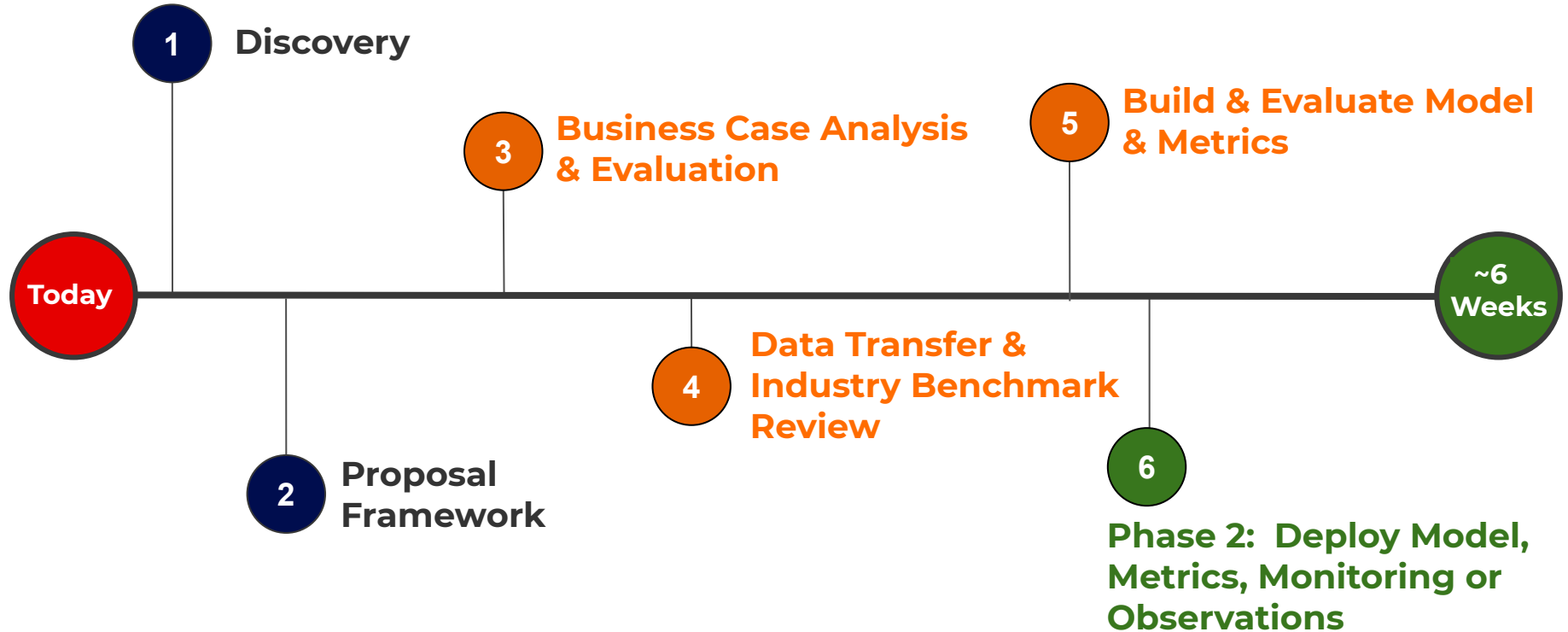
- To Safety Observations app or Procore Observations
- Same actions as the Weekly Risk Report
- Drives engagement in the process
- Track what gets done



Risk-Weighted



Getting Started on the Journey



Two Phase Approach / Agreement

PHASE 1a: IDENTIFY & EVALUATE DATA

- We help identify **YOUR** sources of predictive data
- We evaluate the quality of the data for modeling
- We transfer the data in a secure fashion

PHASE 1b: DEVELOP BENCHMARKS & MODEL

- We develop benchmark metrics & a custom predictive model based on **YOUR** data
- We prove the accuracy of the model through testing
- We tune the model to produce actionable insights for YOUR teams

***Go /
No-go
decision***

PHASE 2: DEPLOY METRICS, MODELS and Workflow

- We work with you to successfully implement the actionable insights
- We build out the data infrastructure needed to run the model
- We monitor the accuracy of the model's predictions

***Phase 1: \$15,000
6-8 weeks***

***Enterprise pricing based on
company or region size***

Customer Onboarding & Support Process

Client

- Executive Support
- Communications Plan
- Access to Data

Newmetrix

- Program Management
- Customer Success
- Technical Support
- Data Commandos
- Behavioral Science

We are on the journey with you

ROI (Reduced Incidents)

ROI	Inputs
Number of recordable incidents annually	20
% of incidents Newmetrix predicts	80%
# of incidents Newmetrix predicts	16
% of incidents avoidable	50%
# of incidents avoidable	8
Industry \$ value of 1 severe safety incident	\$50,000
Opportunity for savings	\$400,000
Newmetrix investment \$1B Construction	\$100,000
ROI	400%
Lost savings per month	\$33,333
Payback in months	3

Industry averages based on managing \$1B of construction under contract

Q&A

Please contact us if you are interested in talking

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or

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