

# LIFE CYCLE PLANNING WHAT MAKES SENSE



SUNCORP  
VALUATIONS



**Alberta  
Municipalities**

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# OVERVIEW OF PRESENTATION

- Introduction
- What is Life Cycle Planning
- Objectives of Life Cycle Planning
  - Asset Life Cycle Management vs Maintenance Management
- Asset Life Cycle Planning Stages
- Approaches to Life Cycle Planning
- Does Spending More Mean Longer Lasting?

# WHO IS SUNCORP VALUATION

- Privately owned valuation firm founded in 1960
- Owned and managed by Accredited Valuation Professionals
- Total valuation service provider
- Carry \$5,000,000 Errors & Omissions Insurance
- Reports accepted by all major Insurers and Financial Institutions



SUNCORP  
VALUATIONS

Our Business is Value.

# WHERE WE ARE



## USA

- Milwaukee
- Seattle
- Philadelphia
- Miami
- Los Angeles

## Canada

- Kelowna
- Vancouver
- Edmonton
- Saskatoon
- Toronto
- Quebec

## India

- Hyderabad

# WHAT WE DO

## Market Value Services

- Mergers, Acquisitions & Divestitures
- Collateral Based Financing
- Corporate Planning
- Financial & Tax Reporting
- Litigation Support
- Purchase/Sale Price Allocation

## Cost Services

- Insurance Valuations
- Post Loss Insurance Valuation

## Consulting Services

- Risk Management Consulting
- Reserve Fund/ Capital Asset Planning and Depreciation Reporting
- Fixed Asset Management & Property Record Control
- Baseline Property Condition Assessments



**WHAT IS  
LIFE CYCLE PLANNING?**

# WHAT IS LIFE CYCLE PLANNING?

Life Cycle Planning describes the approach to maintaining an asset from construction to disposal. It involves the prediction of future performance of an asset, or a group of assets, based on investment scenarios and maintenance strategies.



# **OBJECTIVES OF LIFE CYCLE PLANNING**



# OBJECTIVES OF LIFE CYCLE PLANNING

## The Objectives of Lifecycle Planning can be Summarized as Follows:

- Identify long-term investment for assets and develop an appropriate maintenance strategy
- Predict future performance of infrastructure assets for different levels of investment and different maintenance strategies
- Determine the level of investment required to achieve the required performance
- Determine the performance that will be achieved for the available funding and/or future investment
- Support decision making, make a case for investing in maintenance activities, and demonstrate the impact of different funding scenarios
- Minimize costs over the lifecycle while maintaining the required performance

# OBJECTIVES OF LIFE CYCLE PLANNING

## Additional Tangibles:

- Calculating asset depreciation value
- Building preventive maintenance strategies
- Specifying asset roles in operations
- Ensuring compliance with regulatory standards
- Calculating the cost of procurement and replacement
- Integrating assets into asset tracking systems

# ASSET LIFE CYCLE MANAGEMENT VS. MAINTENANCE MANAGEMENT

*Related, but distinctly different.*

## ASSET LIFE CYCLE MANAGEMENT

Focuses on a holistic approach to managing assets that goes beyond maintenance alone.

As a whole, Asset Life Cycle Management includes monitoring and evaluating how assets meet an organization's needs at each stage, from planning to installation, use, maintenance, and disposal or retirement. Multiple departments may get involved, including production, procurement, maintenance, and accounting.

## MAINTENANCE MANAGEMENT

Focused solely on the maintenance stage of an asset's life cycle.

Assets are in the maintenance stage for all of their useful life, which is why adequate maintenance is so important. Maintenance management controls maintenance resources and activities needed to preserve assets or restore them to working order. Ideally, maintenance management keeps assets in optimal condition and ensures less disruption in production.

# **STAGES OF LIFE CYCLE PLANNING**

# ASSET LIFE CYCLE MANAGEMENT STAGES



# STAGES OF LIFE CYCLE PLANNING

## STEP ONE: Planning for the Asset

The first phase of an asset's life cycle is planning for the asset, which occurs when the organization's needs aren't being met by current assets. The procurement team might work together with multiple departments (production, fleet, customer service, etc.) to determine specific needs. The purchasing department acquires the asset or assets that would meet those needs. Budget constraints should be taken into account; however, the primary focus when purchasing an asset is whether or not it will fulfill the required need for the organization.

# STAGES OF LIFE CYCLE PLANNING

## STEP TWO: Acquiring the Asset

When it has been determined which asset is needed, the next step is acquiring the asset. This includes researching different vendors and choosing the one that has the best product for a cost the organization can afford. Acquiring the asset includes ordering, tracking, and delivery. Once the asset arrives at the organization it must be unloaded and unpackaged.

Also included in the acquisition stage is installation and deployment, which includes assembly, testing for any issues, and inspecting for defects. The manufacturer then installs the asset, and the maintenance manager gets involved to identify spare parts that will be needed later and order them right away if there are long lead times. The maintenance manager should be aware of how the asset's spare parts will fit into inventory. When the asset has been deployed, additional testing is done to ensure the asset is running properly. Personnel are trained on how to use the asset, and maintenance technicians are trained on how to maintain the asset.

# STAGES OF LIFE CYCLE PLANNING

## STEP THREE: Using the Asset

The third phase in an asset's life cycle is initial use of the asset before any maintenance is required. This, along with the maintenance phase, makes up the majority of the asset's life cycle. During this period of time, the asset is finally put to its intended use and is expected to produce output that efficiently contributes to the profitability of the organization. It's important to note that continued planning for the asset's life cycle and maintenance occurs during this phase, but planning should begin before the asset is even acquired.

The amount of time an asset runs before requiring initial maintenance depends on a number of factors. These include the type of asset, how often the asset is used, how complex the asset is, what type of maintenance resources the organization has, and what type of maintenance plan is in place.



# STAGES OF LIFE CYCLE PLANNING

## STEP FOUR: Maintaining the Asset

Once a new asset requires its first maintenance task, it enters the maintenance stage in its life cycle. There are multiple types of maintenance an organization will perform on its assets. They fall into two categories: reactive and proactive.

# STAGES OF LIFE CYCLE PLANNING

## STEP FOUR: Disposing of the Asset

The last stage in an asset's life cycle is decommissioning and disposal of the asset. In a fixed asset's life cycle, disposal occurs when an asset has reached the end of its useful life. Depending on the type of asset and the material it's made of, it may be recycled or thrown away. In some industries, assets are repurposed before they get disposed of completely. For example, a truck that travels to worksites becomes a plow truck that stays on the property. However, repurposing doesn't happen often with production assets.

After an asset is disposed, the life cycle starts over again with a replacement asset. This is always a good time to determine if the organization can upgrade to a better product while minimizing costs. The maintenance department can reassess the maintenance plan for that type of asset going forward to maximize the next asset's usefulness.

# **APPROACHES TO LIFE CYCLE PLANNING**

# APPROACHES TO LIFE CYCLE PLANNING

## Do Nothing

Emergency maintenance is a type of reactive, corrective maintenance that is done when an asset fails completely and the problem must be corrected immediately. Emergency maintenance might involve a task that will mitigate a safety hazard or prevent damage to a product, building, or other machines.

# APPROACHES TO LIFE CYCLE PLANNING

## Do Something

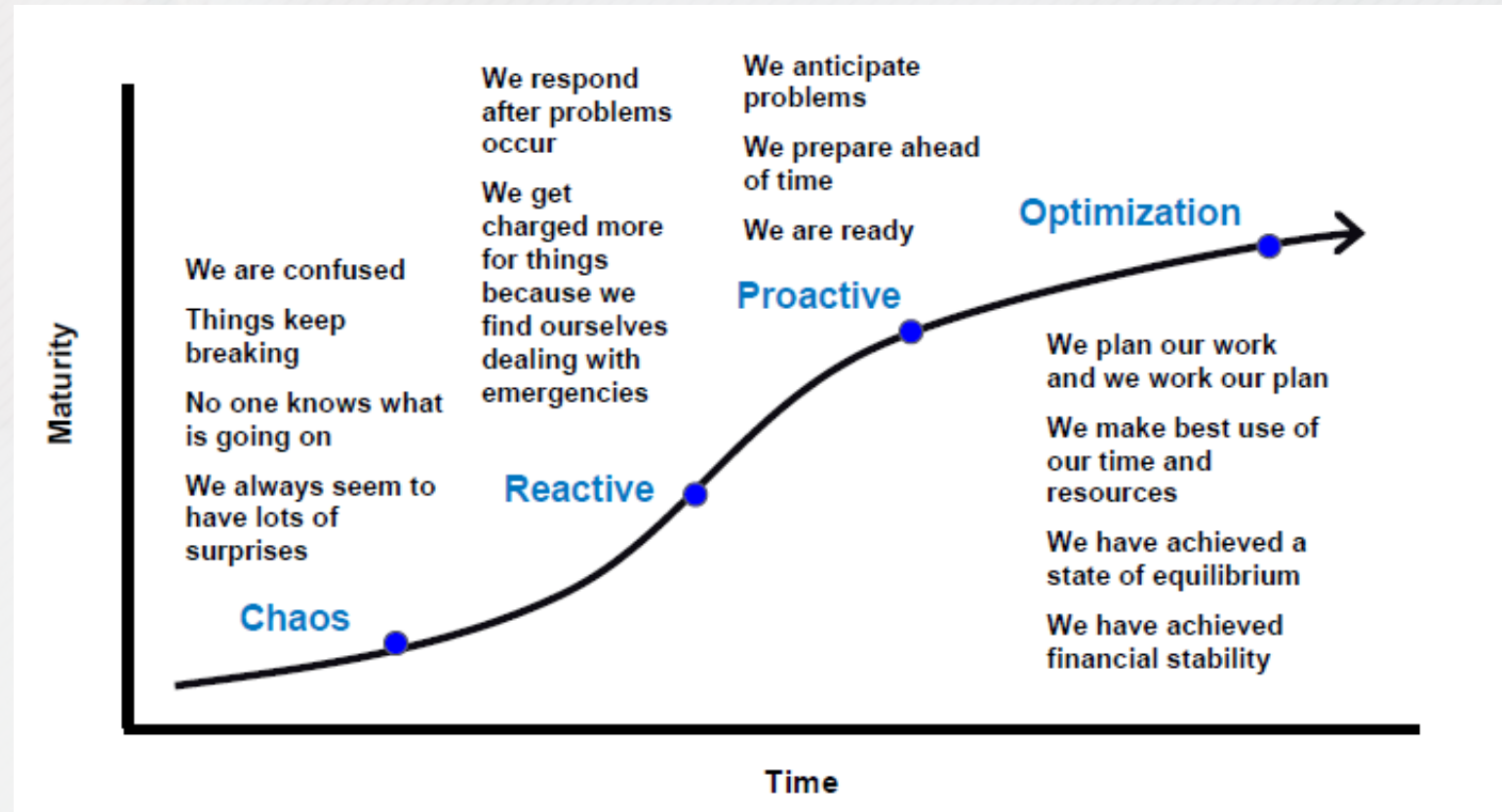
Corrective maintenance is a type of reactive maintenance. It is done when something goes wrong with an asset, and its purpose is to correct the problem and get the asset running properly again. This is the most common type of maintenance to be performed because no matter how simple or complex a maintenance team's plan is, corrective maintenance must be done when needed.

# APPROACHES TO LIFE CYCLE PLANNING

## Proactively Plan

Preventive maintenance jobs include a wide range of tasks that can be simple and straightforward or complex, all of which are important for keeping assets in optimal condition. The types of preventive maintenance jobs a maintenance team will perform depend largely on which assets they have and the industry to which the organization belongs. A few general examples include changing the oil on a service vehicle, changing a furnace filter, lubricating machine parts, and repainting a wall of a building.

# APPROACHES TO LIFE CYCLE PLANNING



# **METHODS TO LIFE CYCLE PLANNING**



# METHODS TO LIFE CYCLE PLANNING

## Manually Managing Assets

Many companies forgo a more formal Asset Management system and opt for, what is the often easier and always less expensive method of simply using Excel or Google Sheets to input information about projects, files, and locations.

There are many advantages to this method, as it's easy to deploy, flexible, and has no investment cost. There are downsides to this method as well. It does not scale well and is 100% manual, making it very easy to not achieve the goal of organizing digital assets.

## Digital Management Software

Another common method for managing your assets is purpose-built software.

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BENCHMARK ANALYSIS	EXPECTED LIFESPAN YEARS	EFFECTIVE AGE YEARS	REMAINING LIFESPAN YEARS	CURRENT REPLACEMENT COST	FUTURE REPLACEMENT COST	CURRENT RESERVE FUND REQUIREMENTS	FUTURE RESERVE FUND ACCUMULATION	FUTURE RESERVE FUND REQUIREMENTS	ANNUAL RESERVE FUND ASSESSMENT	RESERVE FUND ASSESSMENT ALLOCATION
<b>BUILDING - STRUCTURAL / ARCHITECTURAL</b>										
SUBSTRUCTURE	70	20	50	32,500	142,477	9,286	65,993	76,484	501	1.40
EXTERIOR WALL	30	20	10	166,862	224,249	111,241	164,664	59,585	4,963	14.30
ROOF ASSEMBLY	25	1	24	169,108	343,762	6,764	17,338	326,424	8,352	24.00
ROOF ASSEMBLY-EAVESTROUGHS, SOFFITS, FASCIA AND DOWNSPOUTS	35	20	15	103,440	161,156	59,109	106,452	54,704	2,732	7.90
<b>ELECTRICAL SYSTEMS</b>										
ACCESS CONTROLS / COMMUNICATION	20	20		15,000	15,000	15,000	15,000		910	2.60
<b>SITE IMPROVEMENTS</b>										
SEWER AND WATER SYSTEMS	70	20	50	30,000	131,517	8,571	60,911	70,606	462	1.30
FENCING-VINYL PRIVACY SCREENS	40	5	35	11,250	31,656	1,406	5,548	26,108	354	1.00
FENCING-METAL	10	5	5	9,720	11,268	4,860	5,913	5,355	989	2.80
ASPHALT PAVING AND CONCRETE WORK-ASPHALT PAVING REPLACEMENT	30	20	10	214,825	288,707	143,217	211,996	76,711	6,389	18.40
ASPHALT PAVING AND CONCRETE WORK-CONCRETE WORK - REPLACEMENT	40	20	20	107,500	194,157	53,750	117,773	76,384	2,565	7.40
ASPHALT PAVING AND CONCRETE WORK-MAINTENANCE	6	2	4	24,788	27,899	8,263	9,667	18,232	4,293	12.30
UNDERGROUND ELECTRICAL	70	20	50	15,000	65,759	4,286	30,459	35,300	231	0.70
OTHER SITE IMPROVEMENT-LANDSCAPING AND UNDERGROUND SPRINKLERS	20	15	5	20,000	23,185	15,000	18,250	4,935	911	2.60
OTHER SITE IMPROVEMENT-REAR COMPOSITE STEPS	30		30	10,500	25,486			25,486	454	1.30
<b>MISCELLANEOUS</b>										
RESERVE FUND STUDIES	5	5		3,150	3,150	3,150	3,150		674	1.90
<b>TOTALS</b>				<b>\$933,643</b>	<b>\$1,689,428</b>	<b>\$443,903</b>	<b>\$833,114</b>	<b>\$856,314</b>	<b>\$34,780</b>	<b>100%</b>

**DOES SPENDING MORE  
MEAN LONGER LASTING?**

# ARE YOU PAYING MORE FOR...

**Aesthetics?**

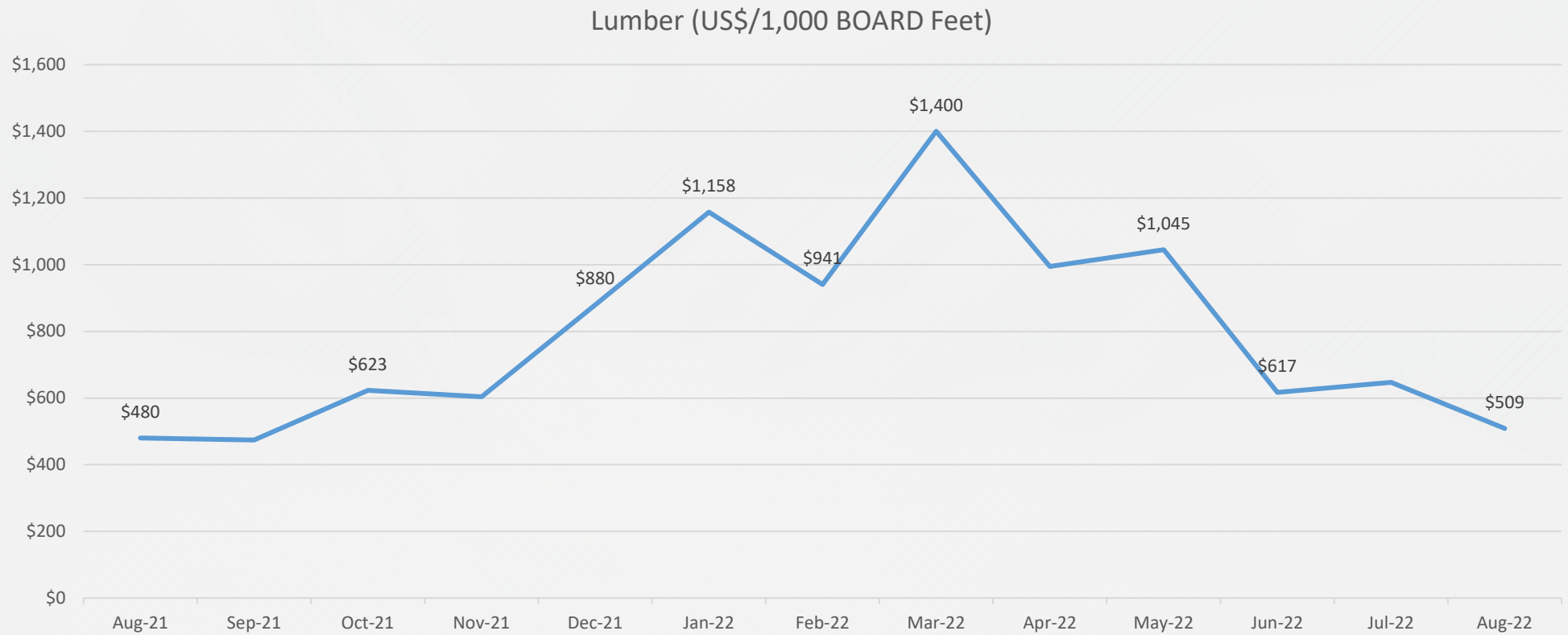


# ARE YOU PAYING MORE FOR...

Materials?

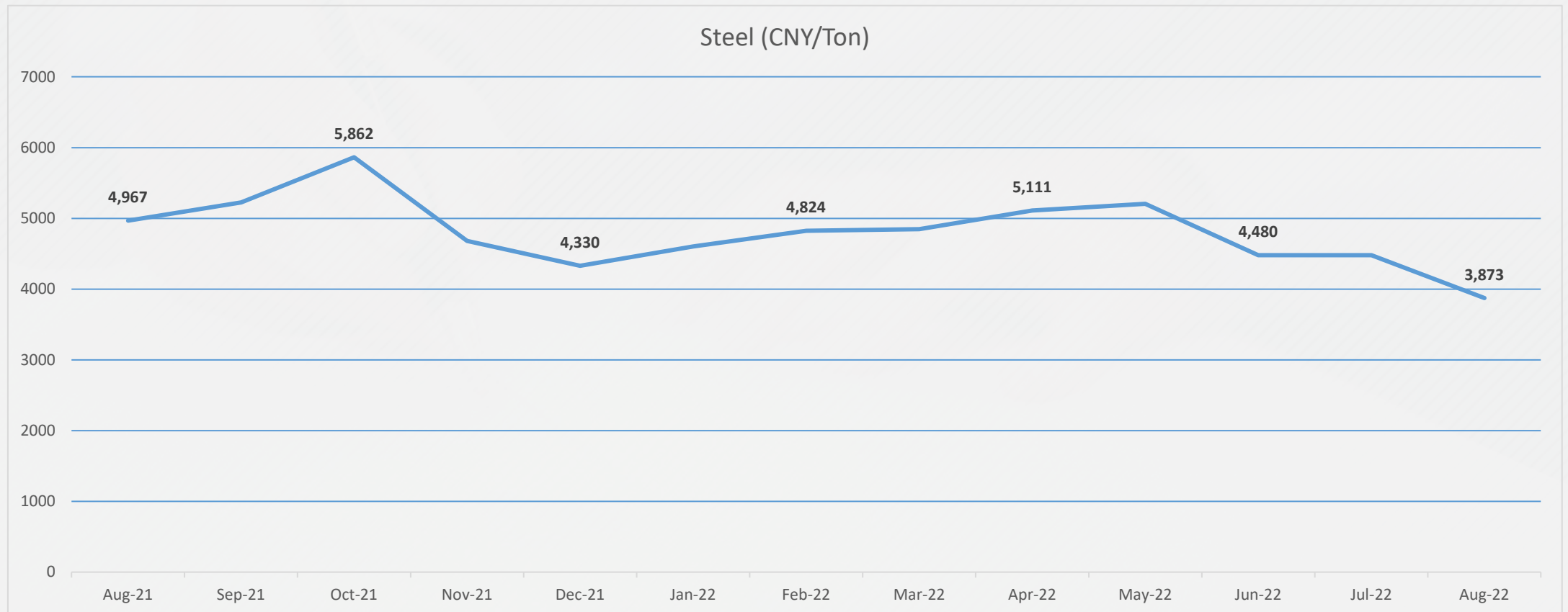


# Cost Trends for Volatile Construction Materials



Source: [tradingeconomics.com](https://tradingeconomics.com)

# Cost Trends for Volatile Construction Materials



Source: [tradingeconomics.com](https://tradingeconomics.com)

# ARE YOU PAYING MORE FOR...

Functionality?





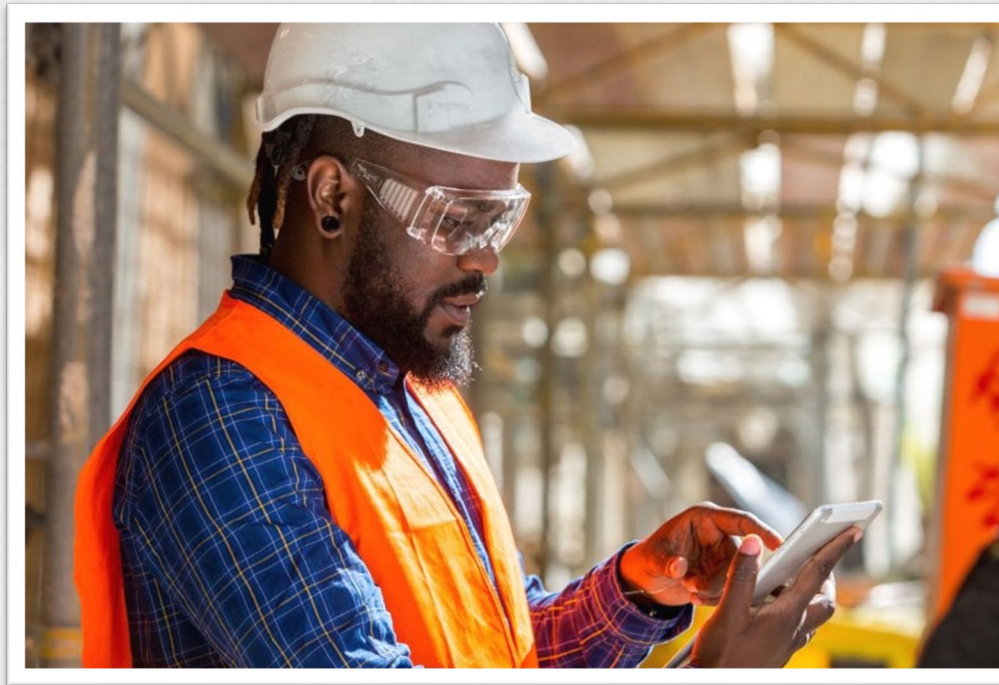
# ARE YOU PAYING MORE FOR...

To be Unique?



# ARE YOU PAYING MORE FOR...

## Workmanship?



# THANK YOU!

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