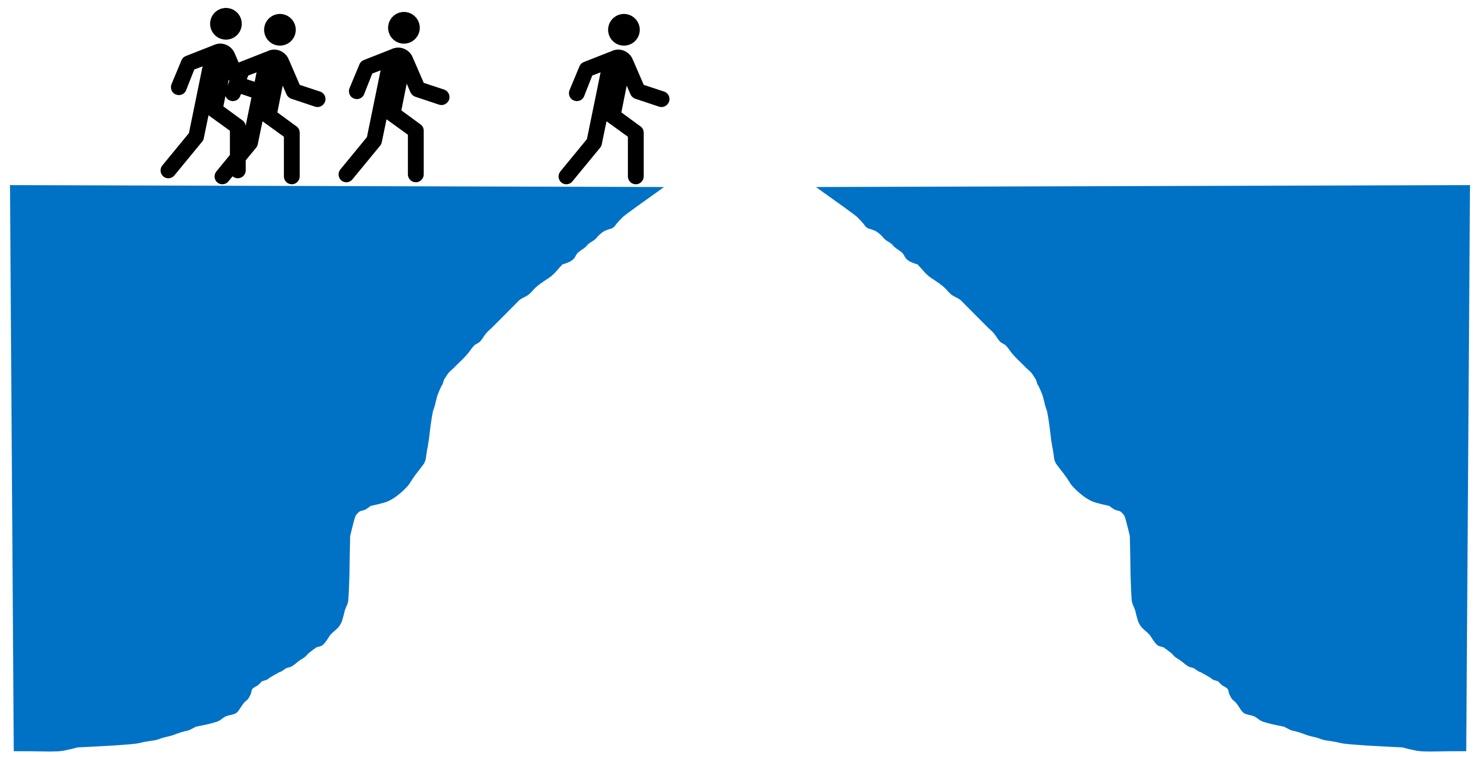
TRAILHEAD
TECHNOLOGY PARTNERS

‘Why Did They Do That?’ And Other Mysteries Solved by ADRs

Jonathan “J.” Tower

The Chasm of Forgotten Decisions



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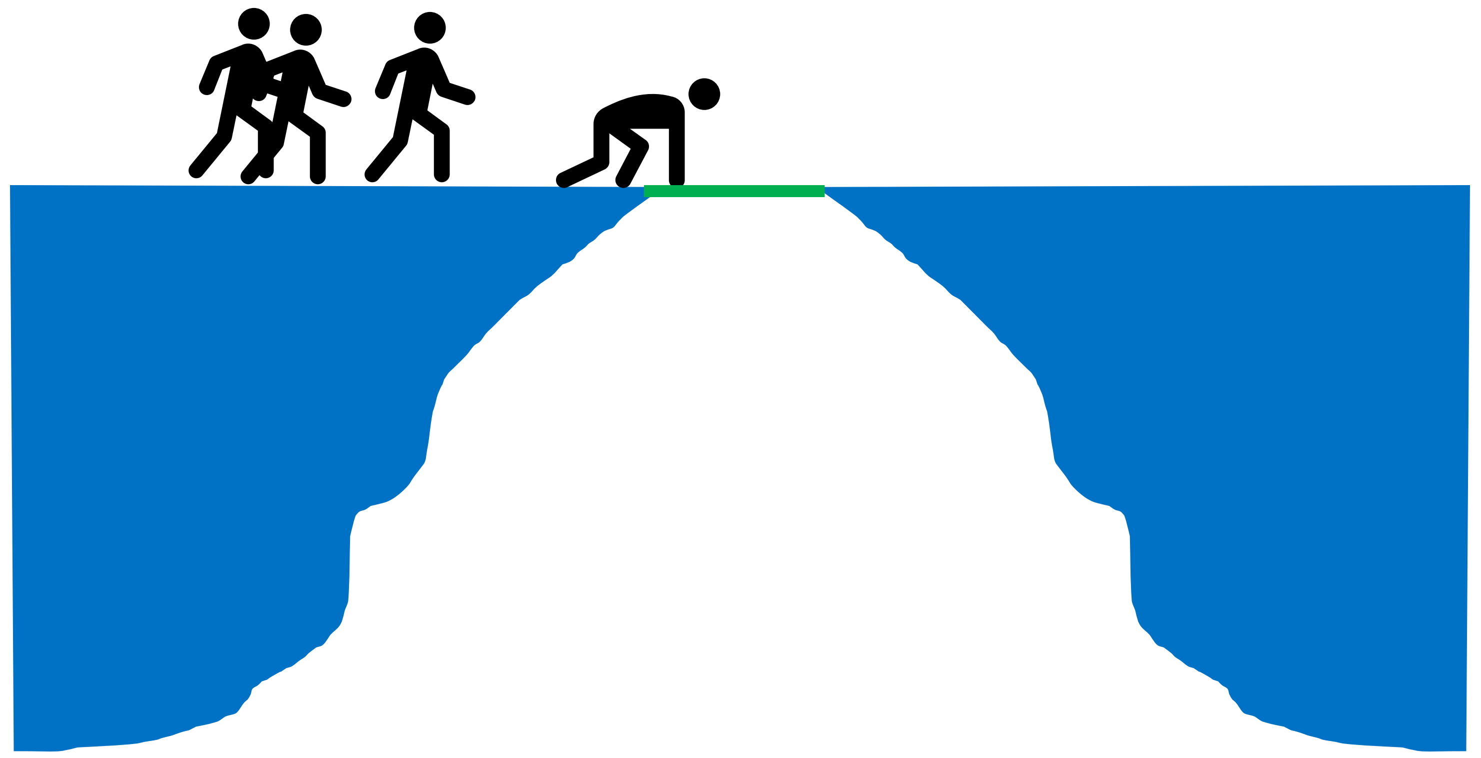

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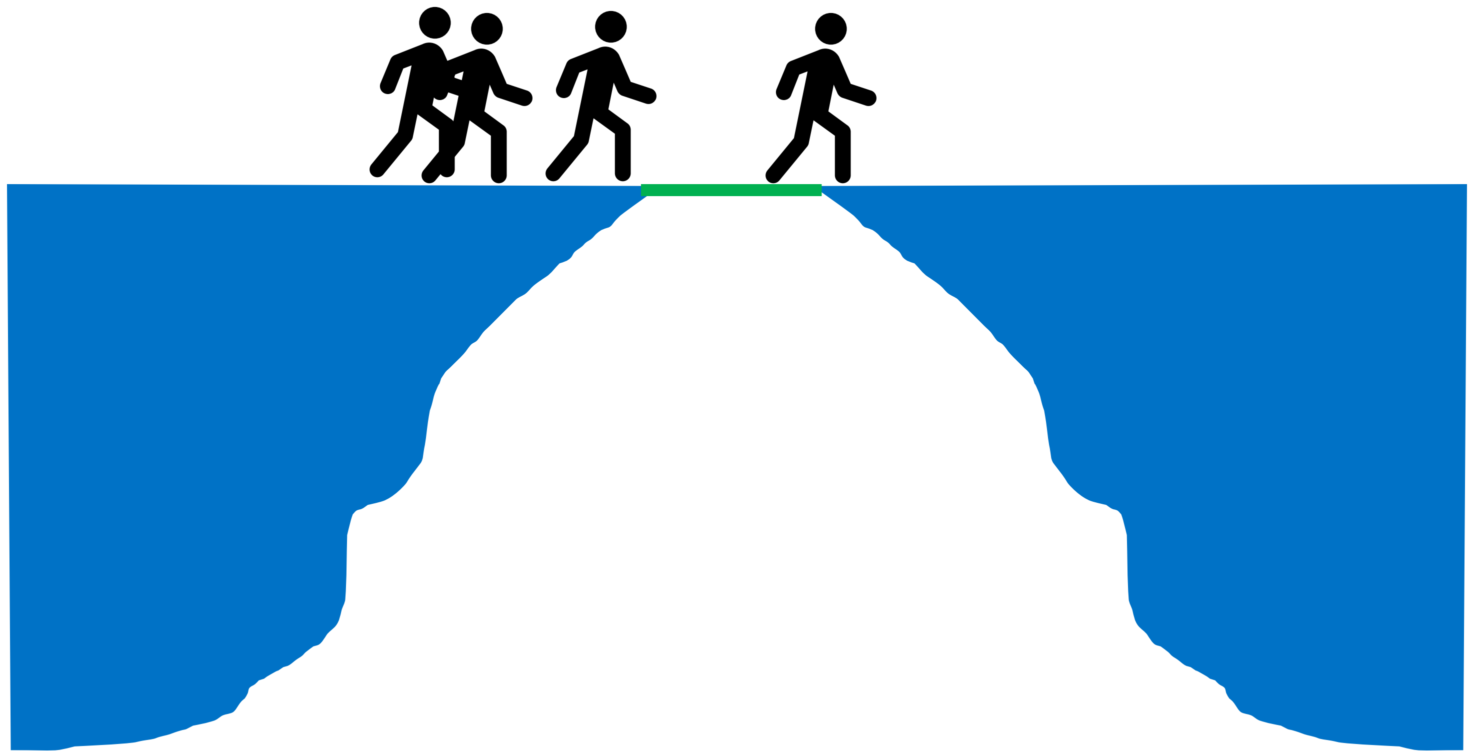

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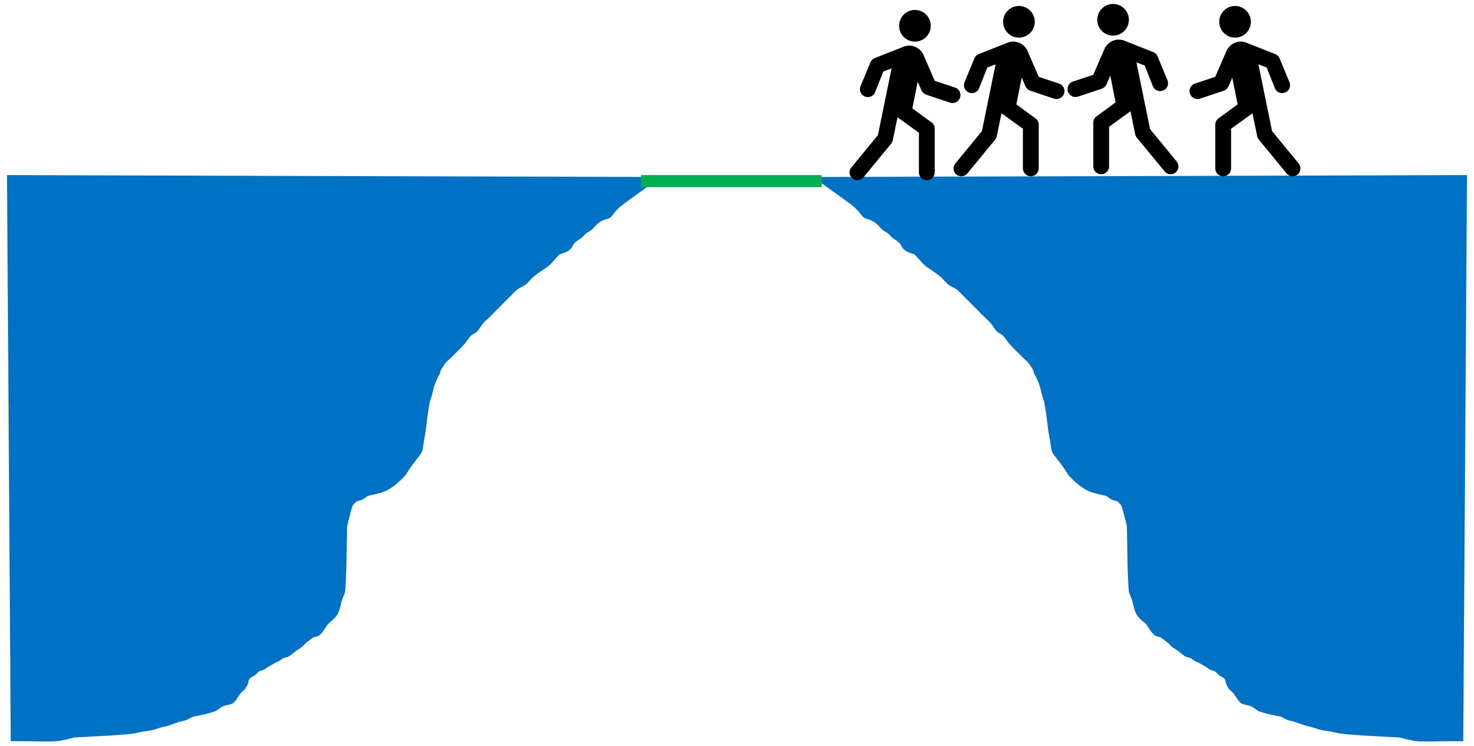

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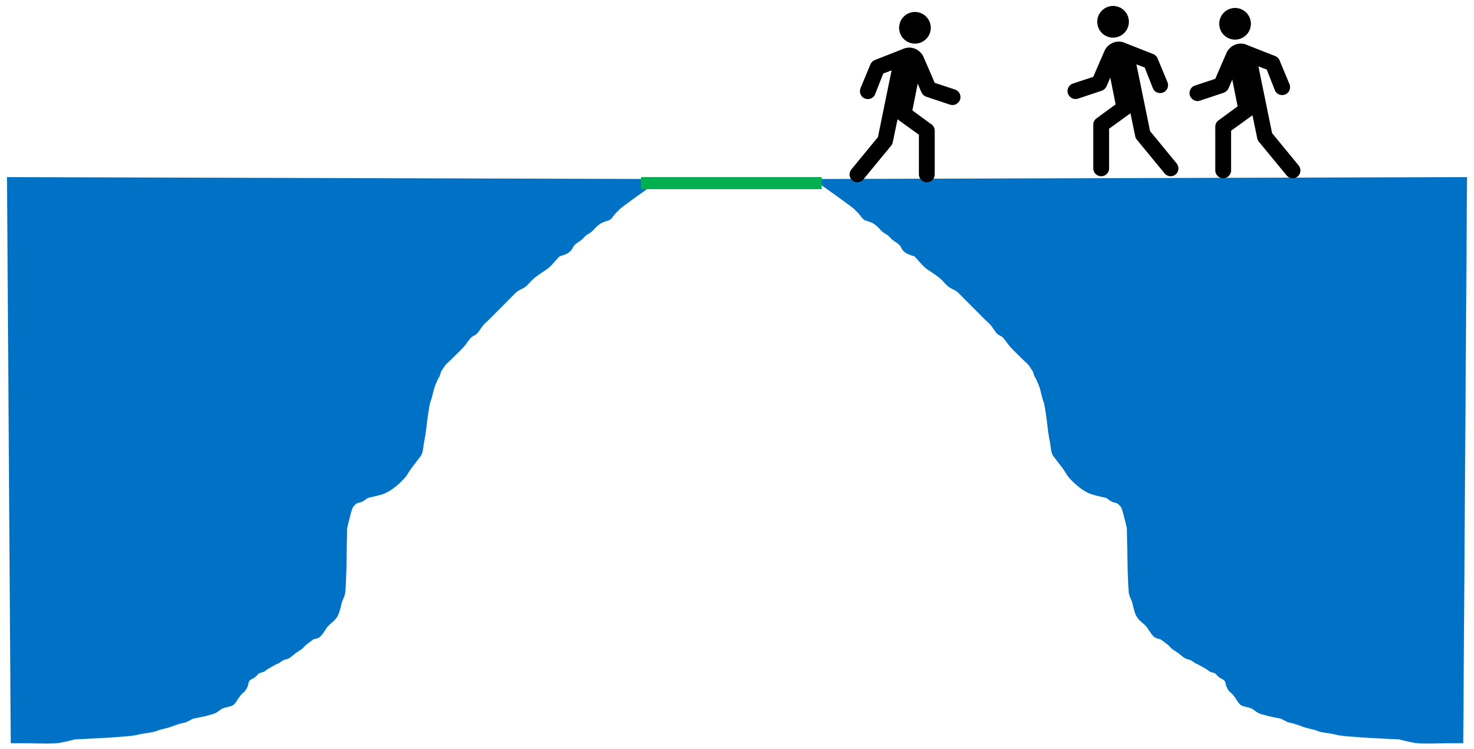

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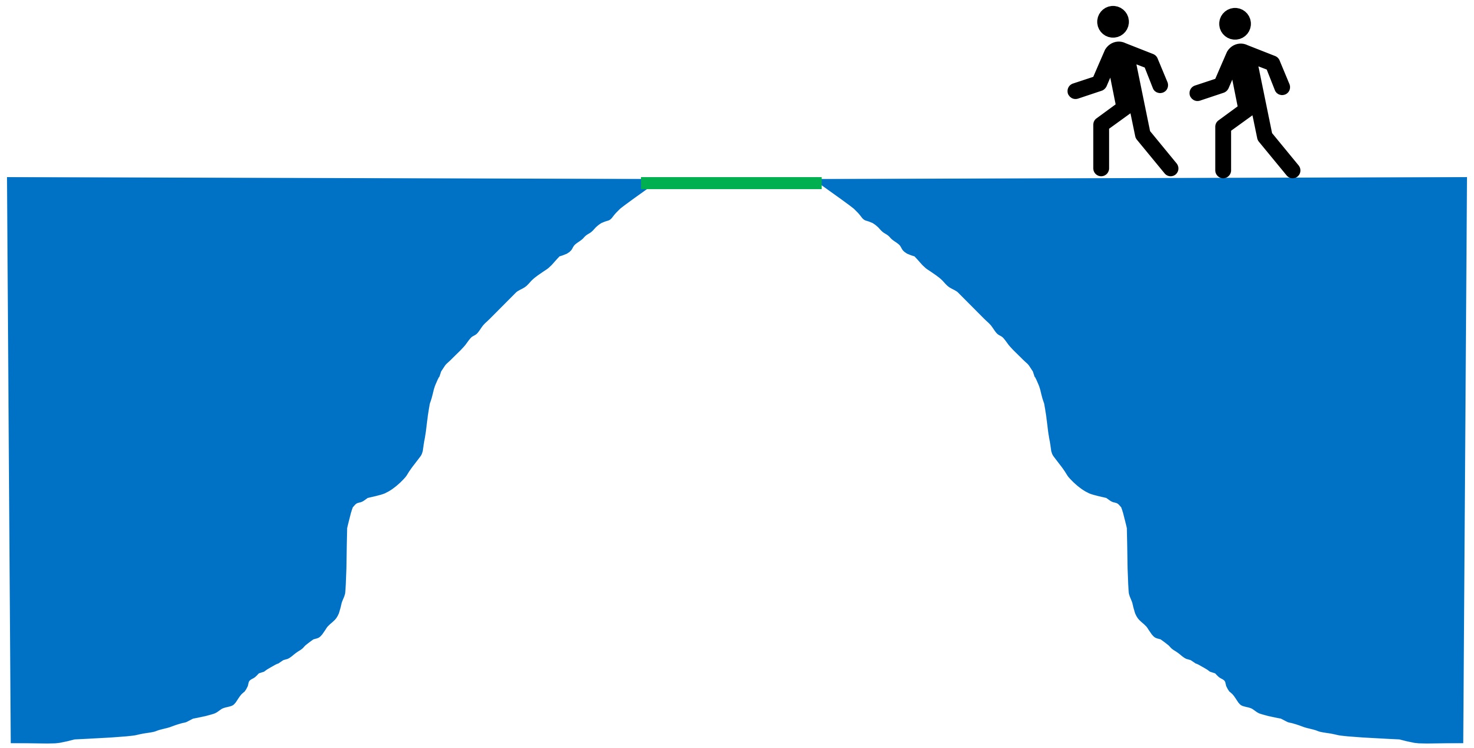

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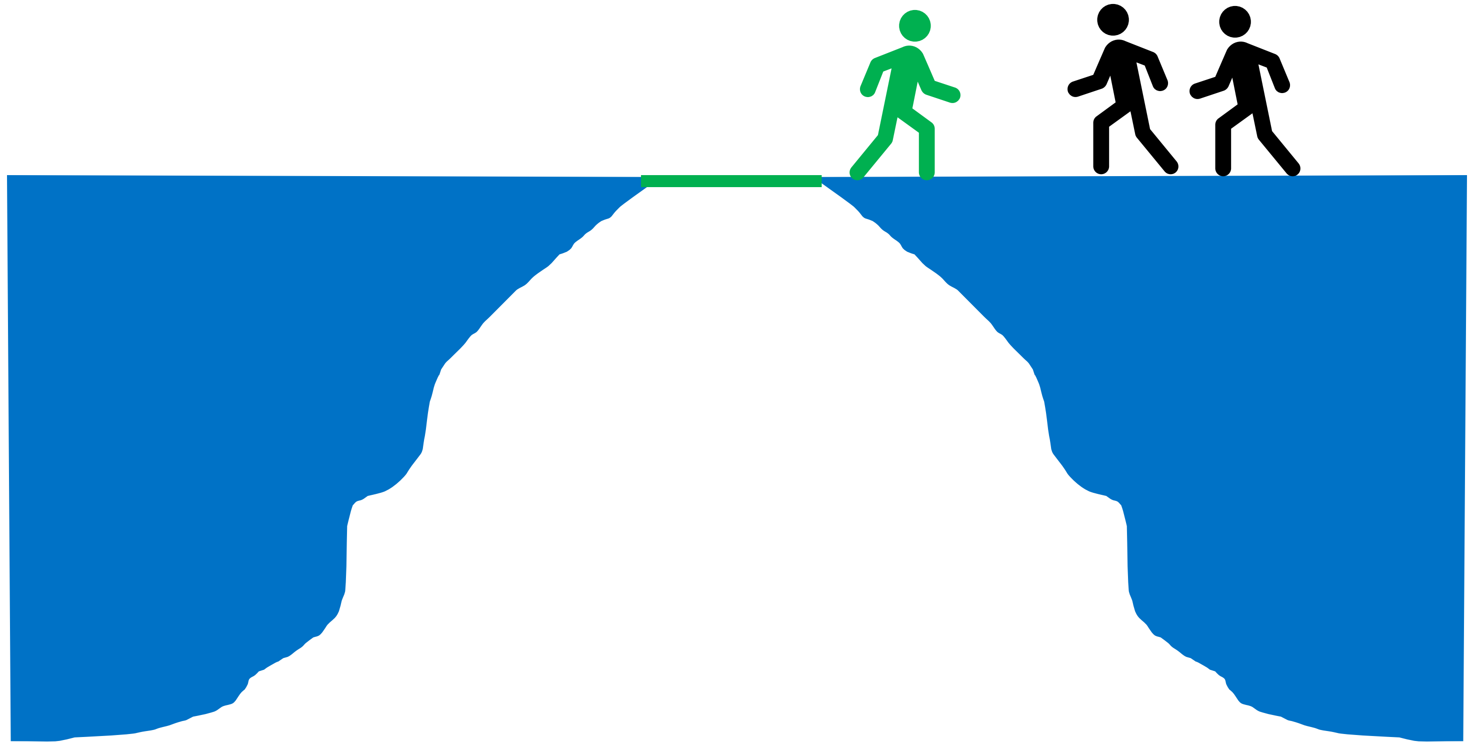

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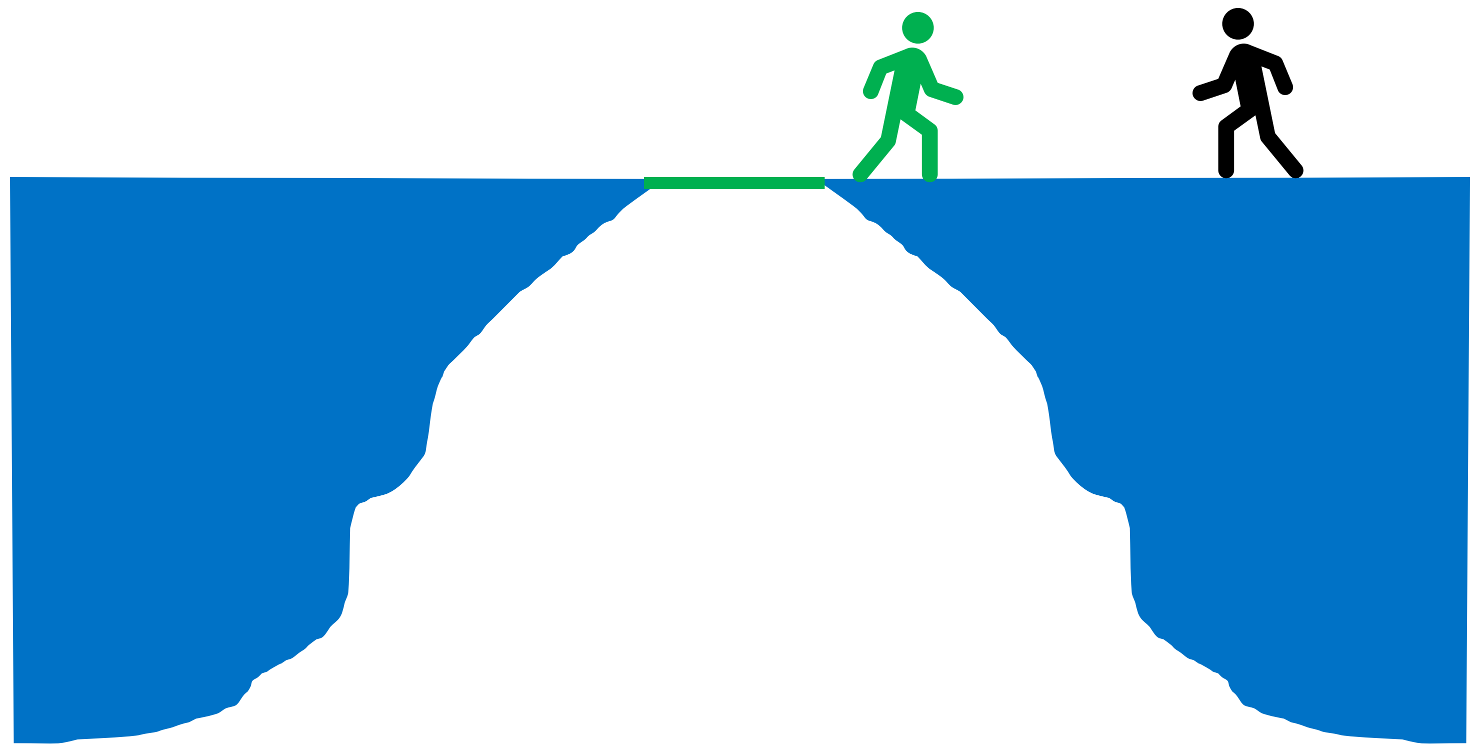

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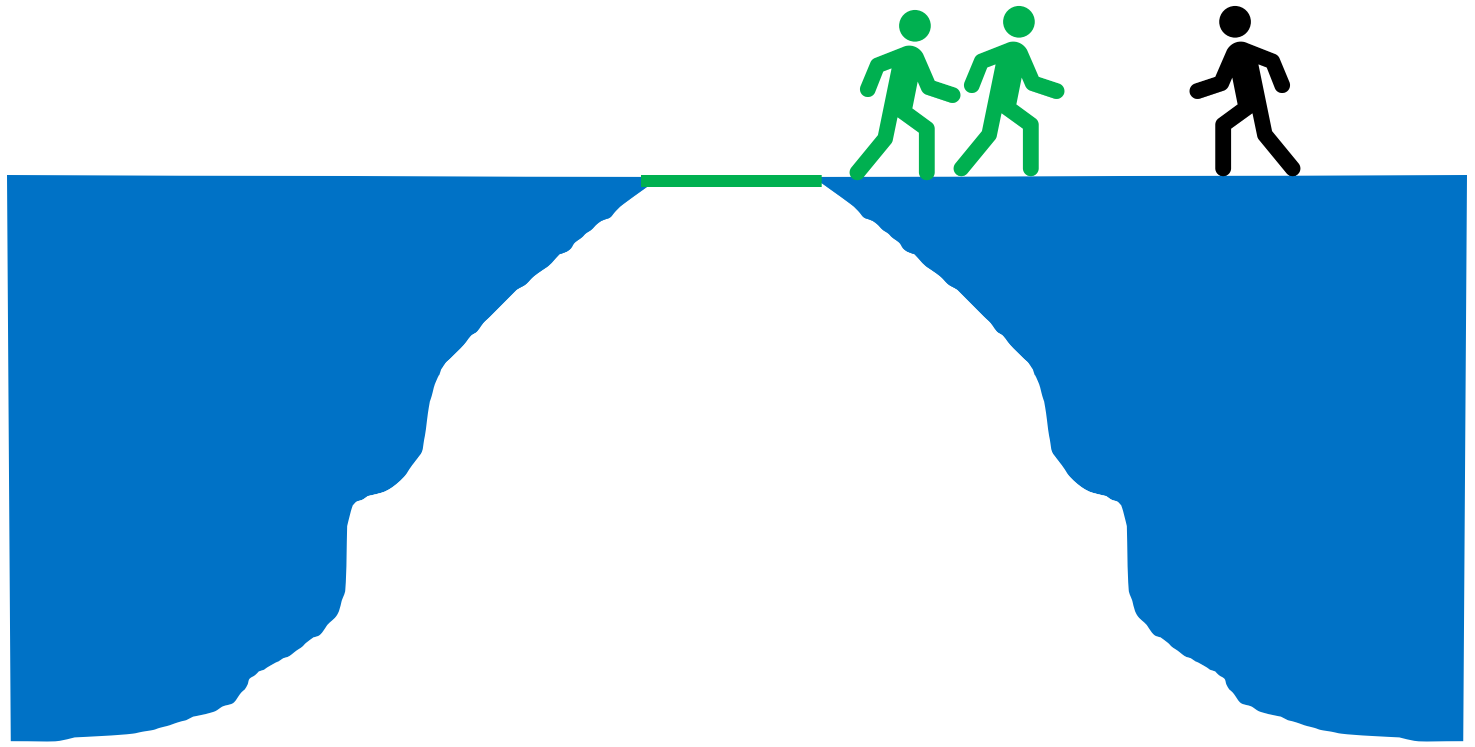

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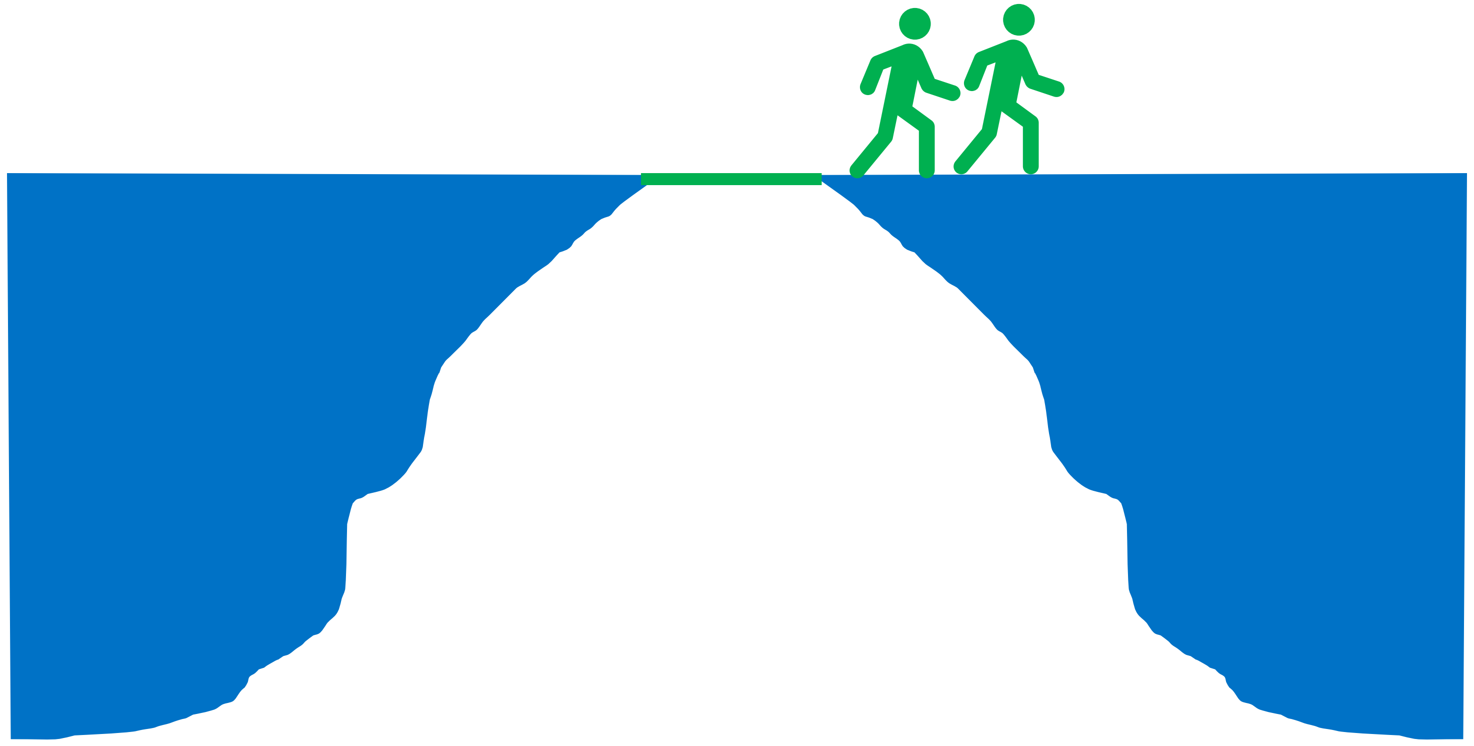

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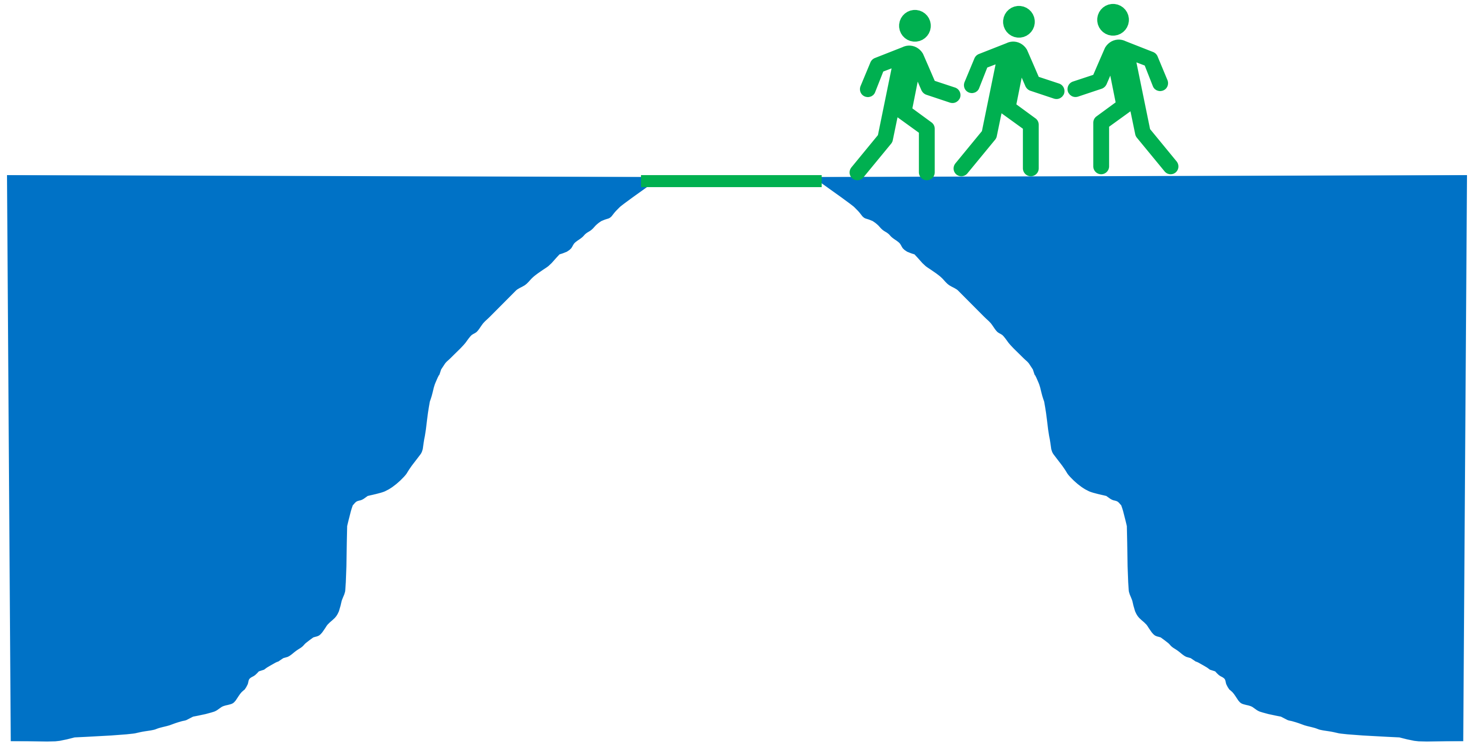

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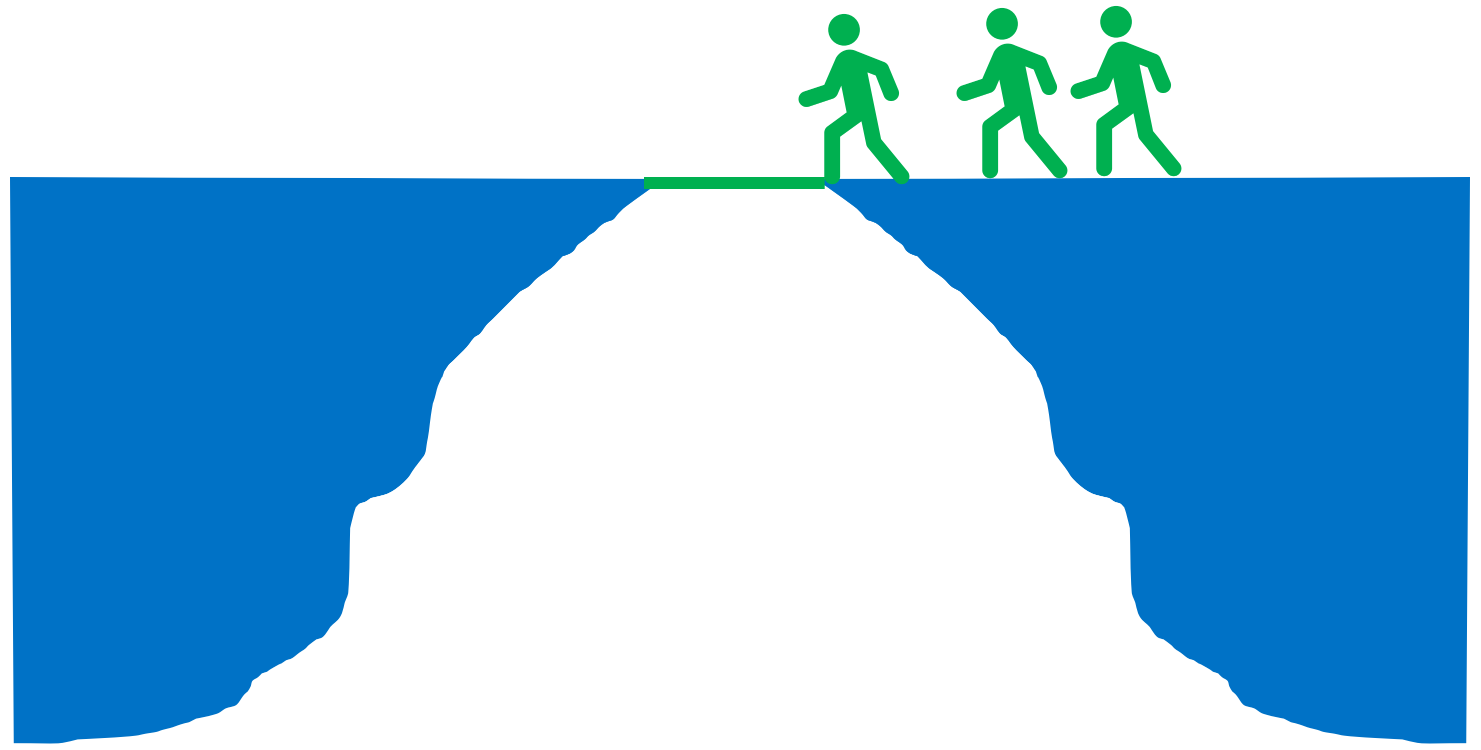

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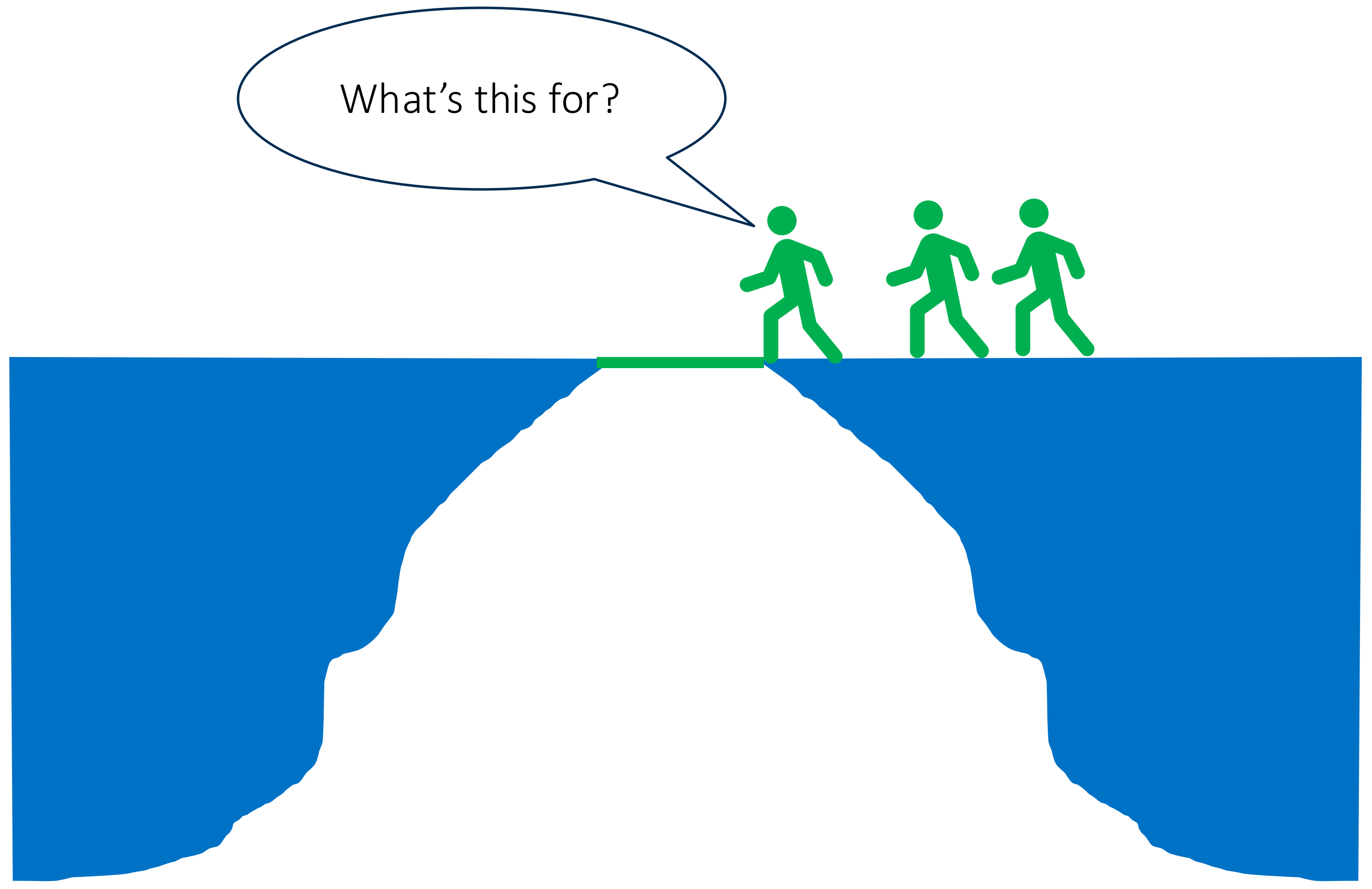

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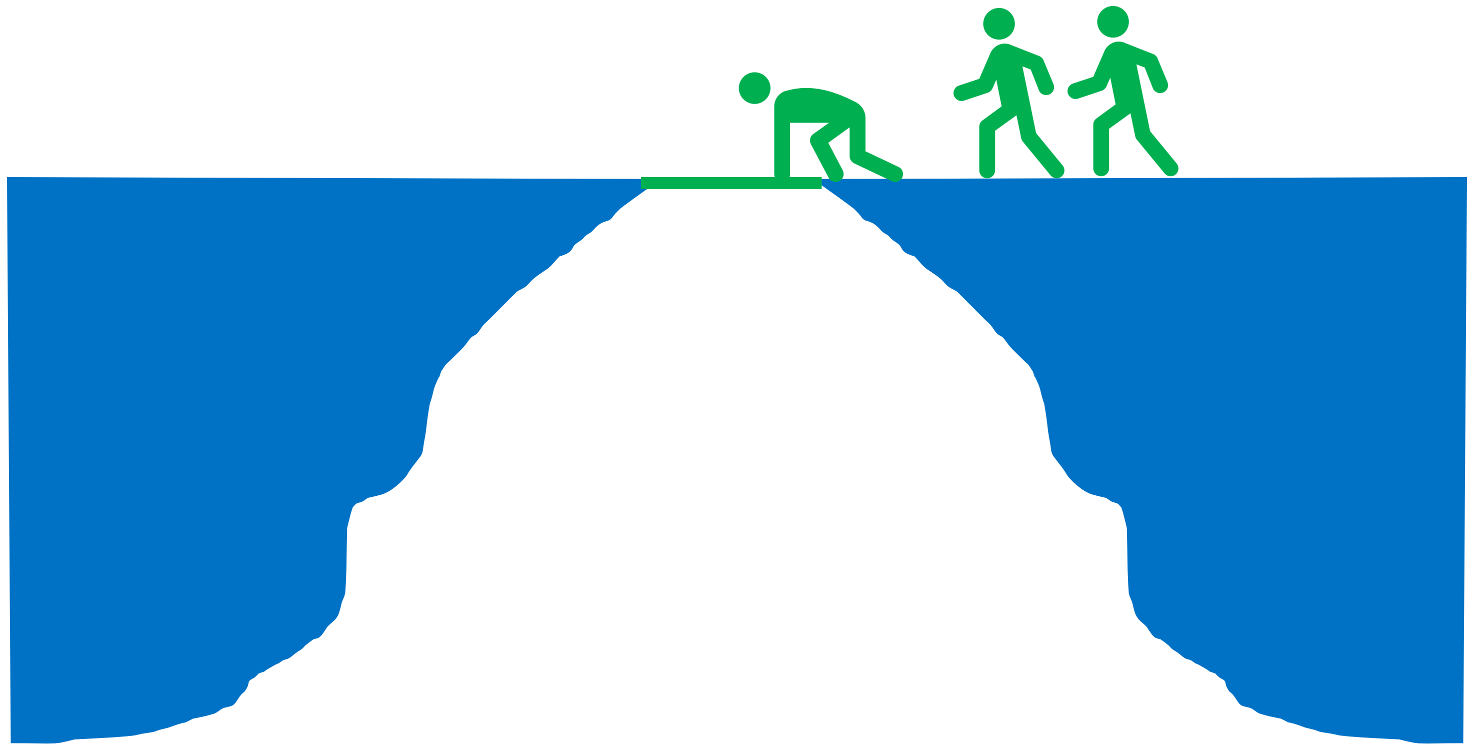

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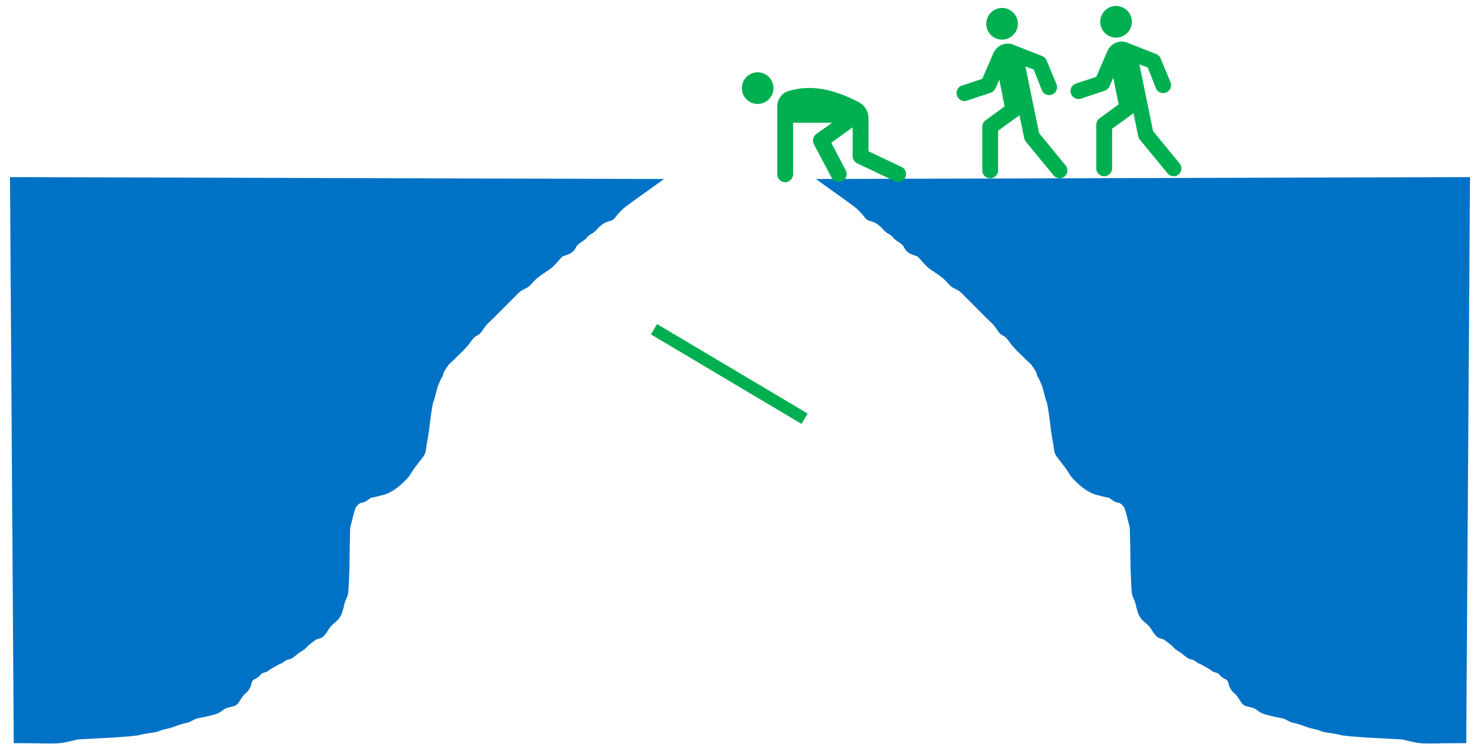

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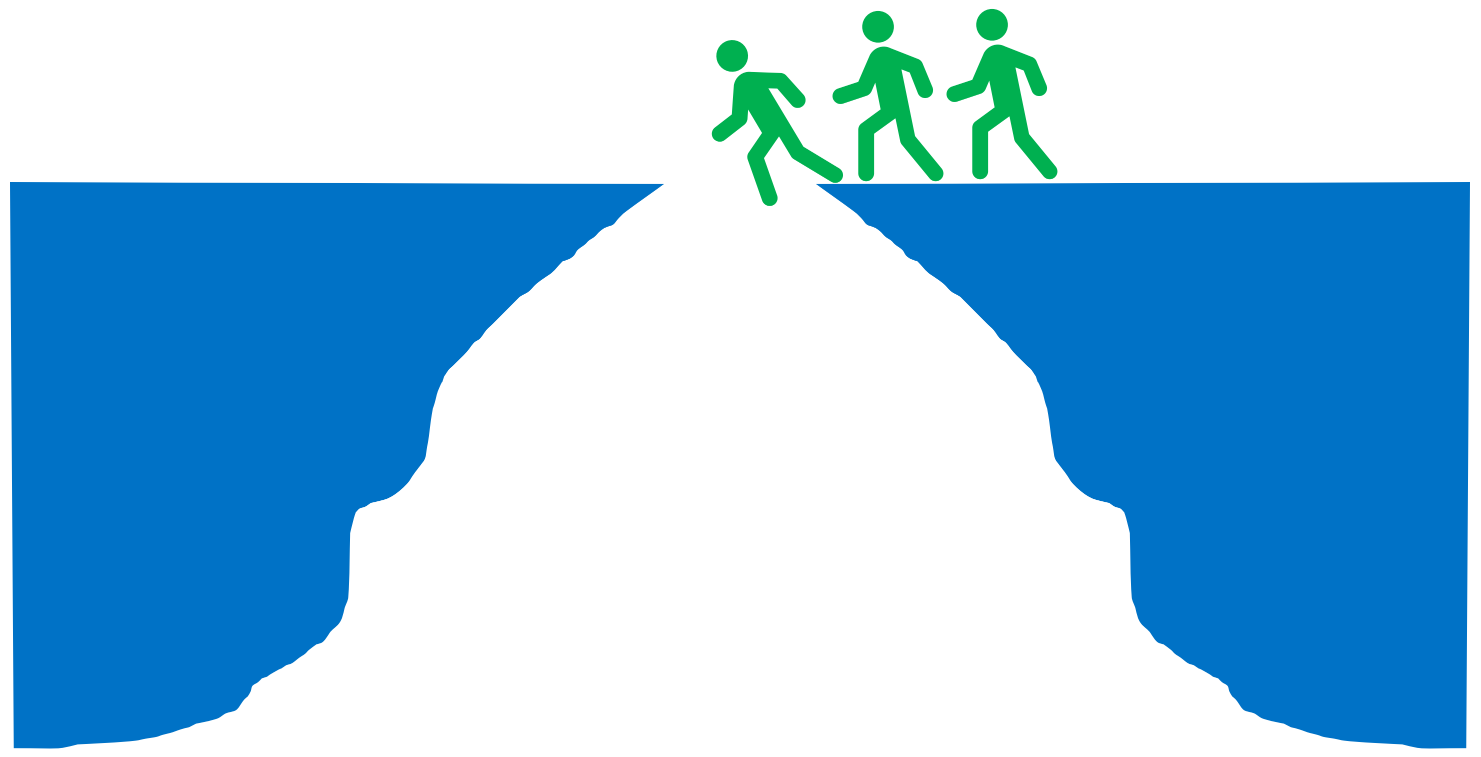

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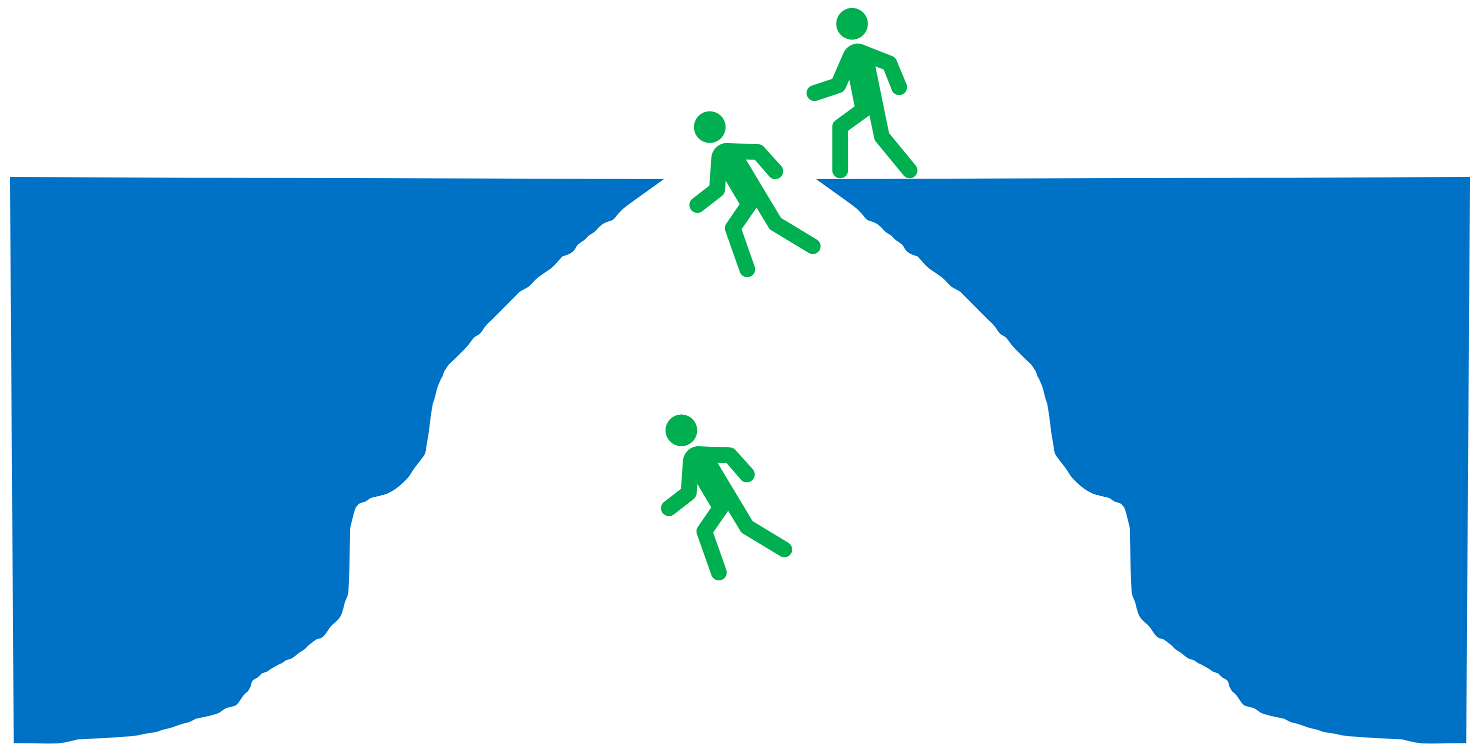

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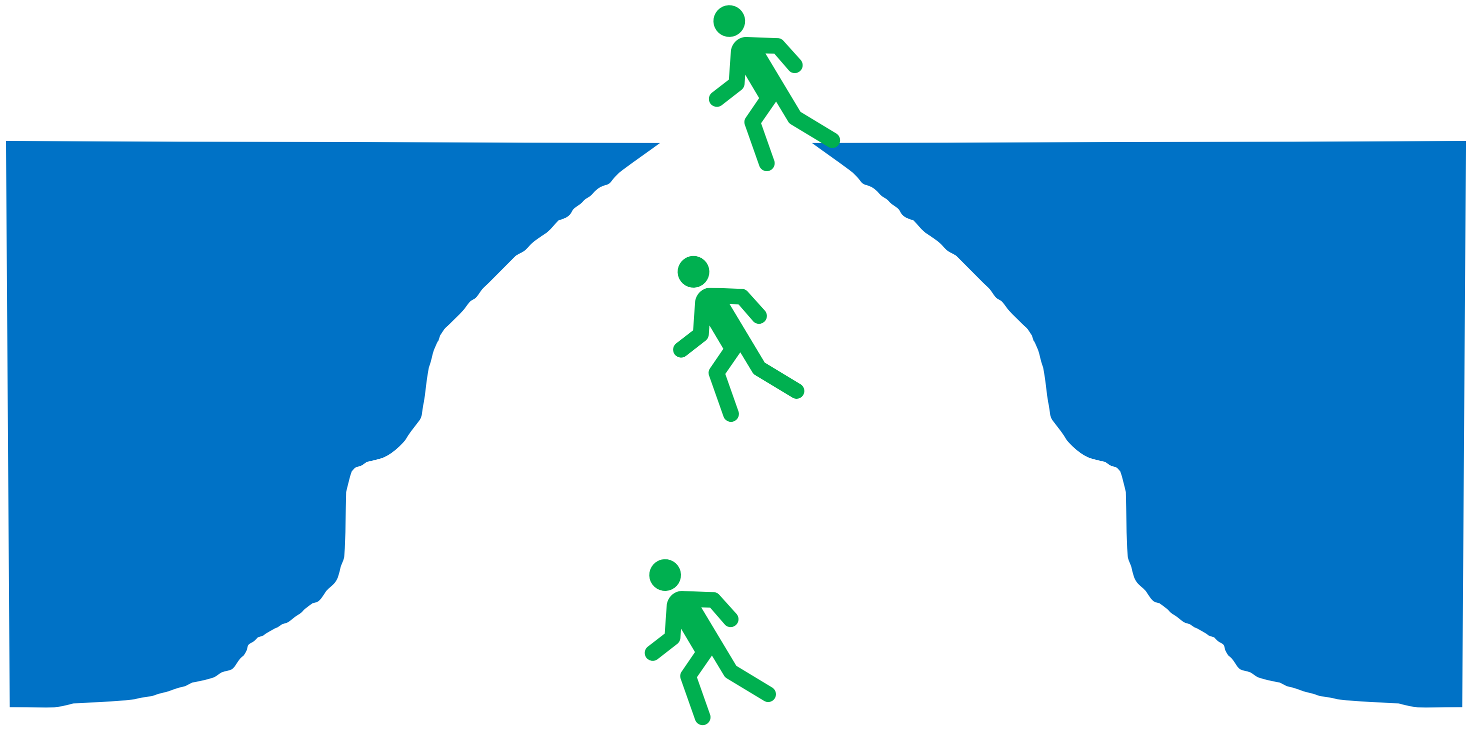

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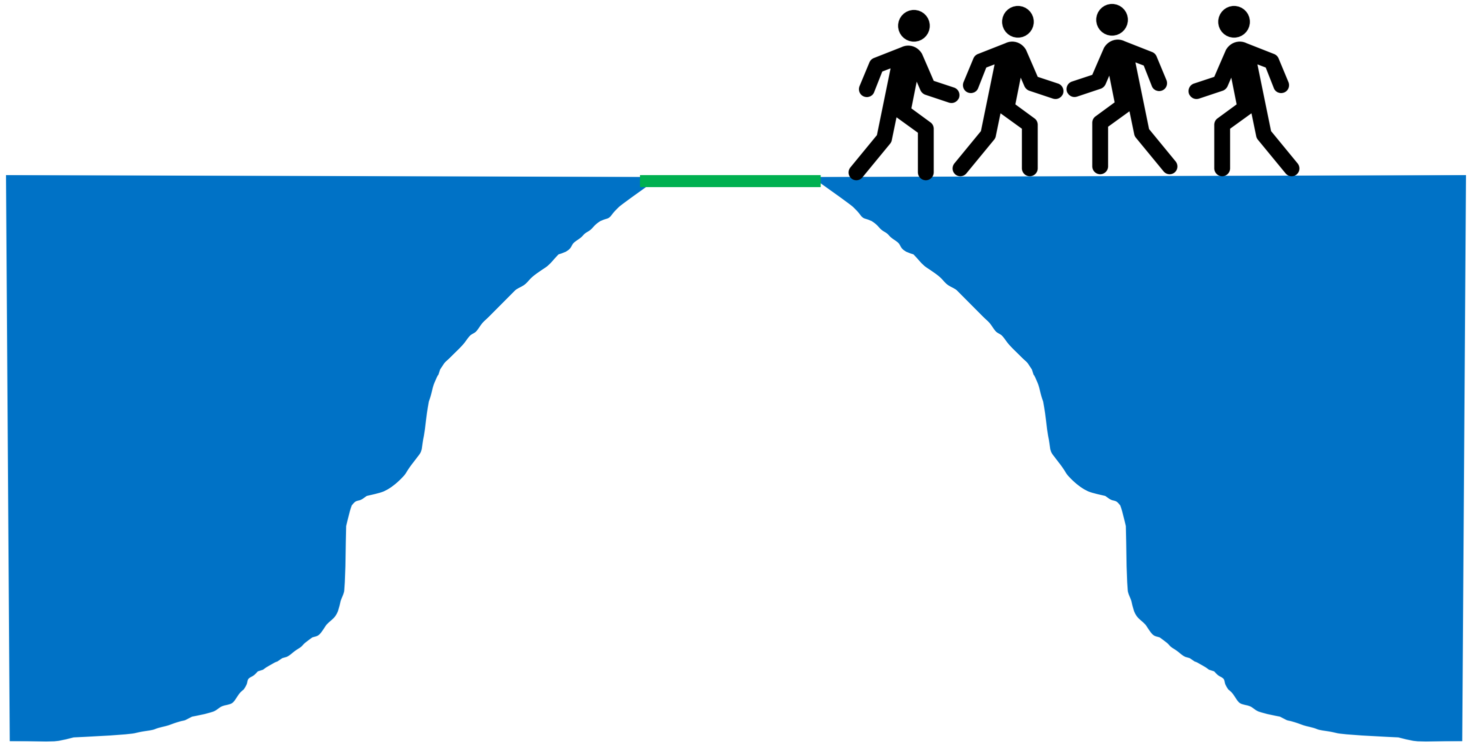

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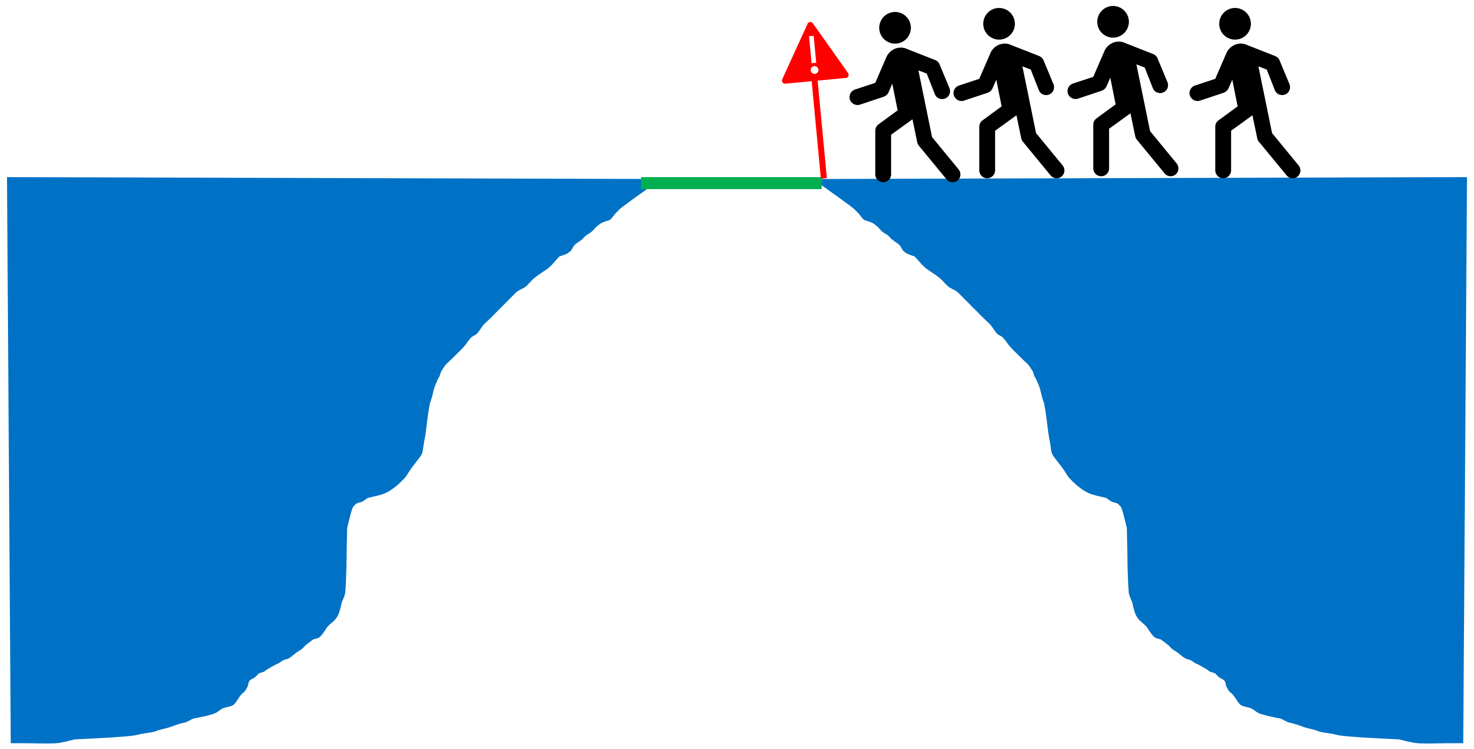

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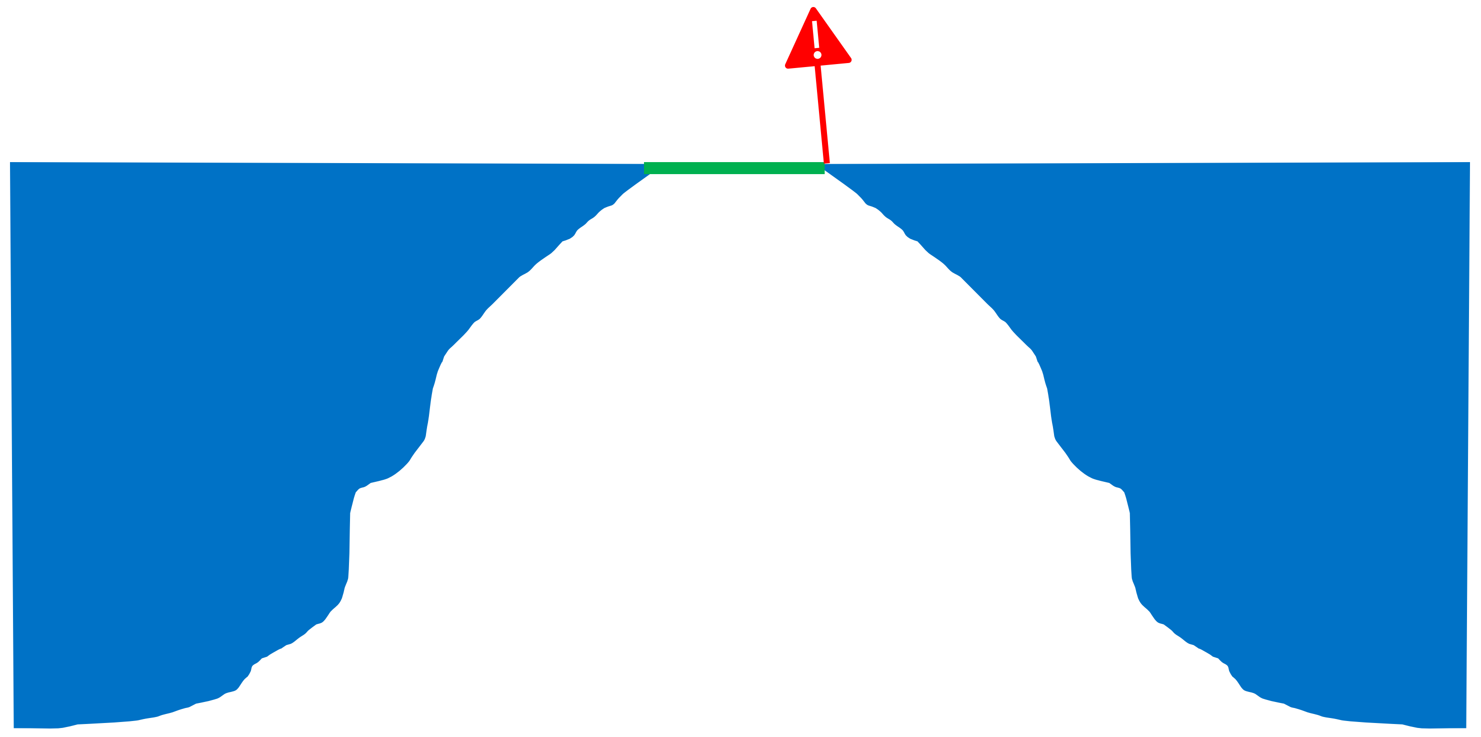

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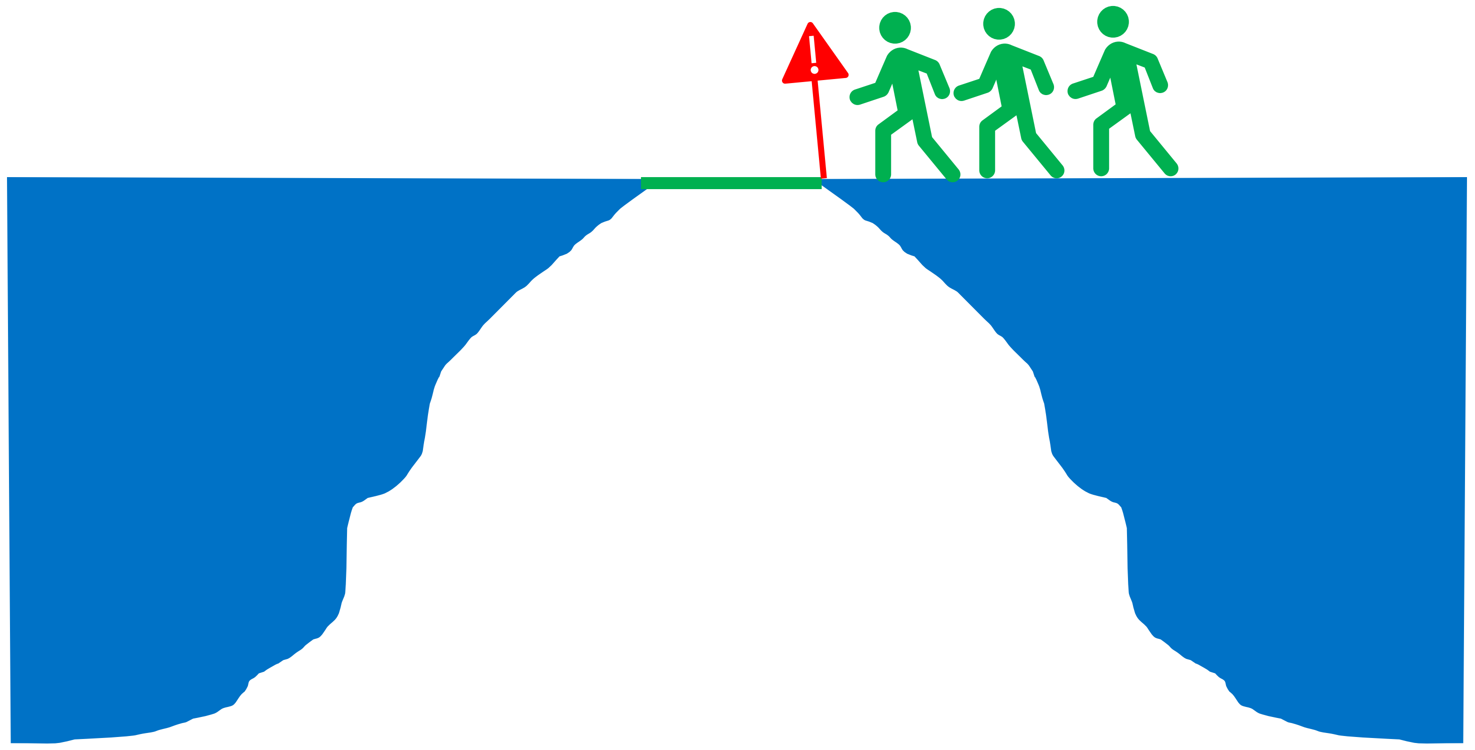

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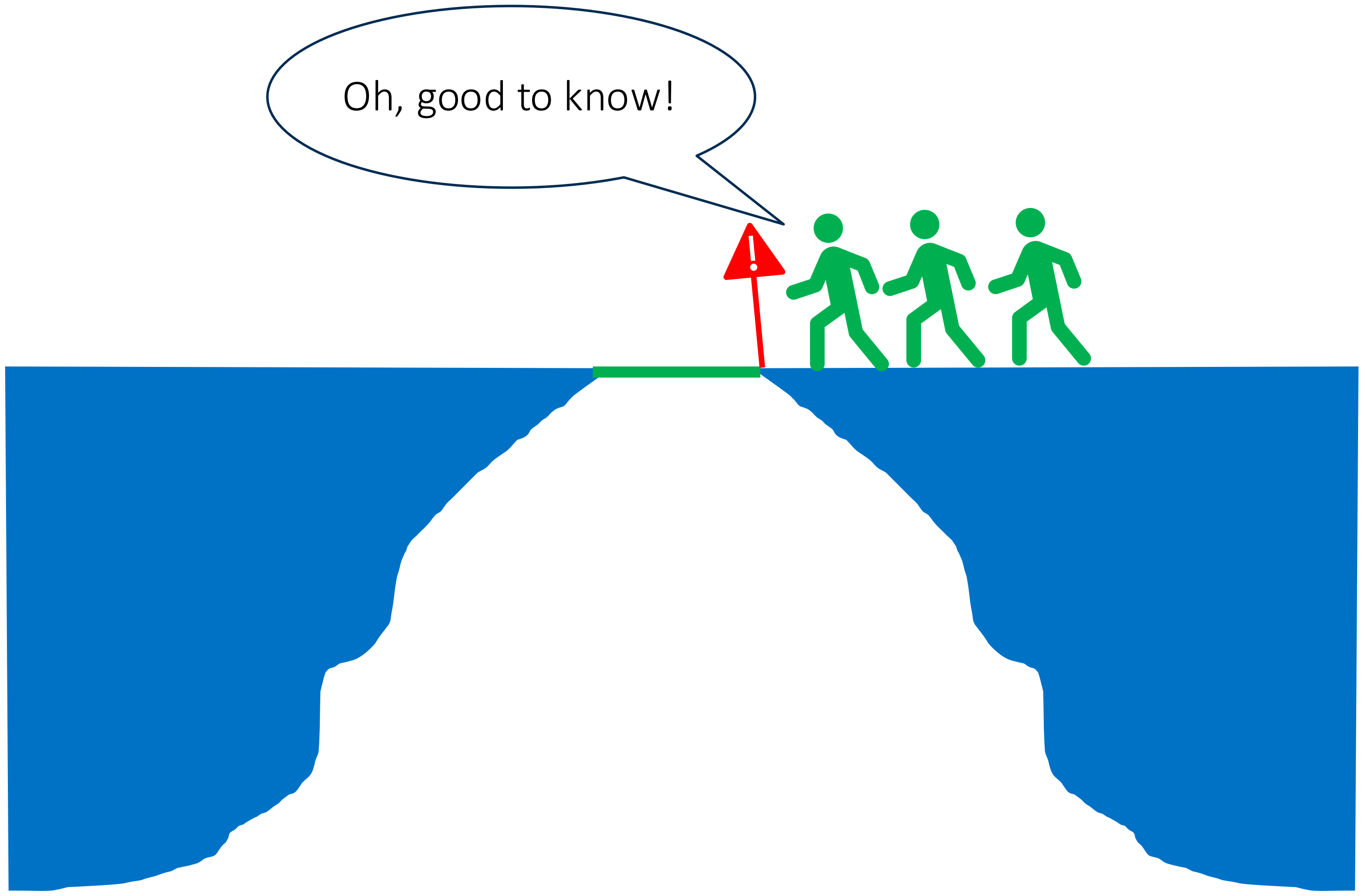

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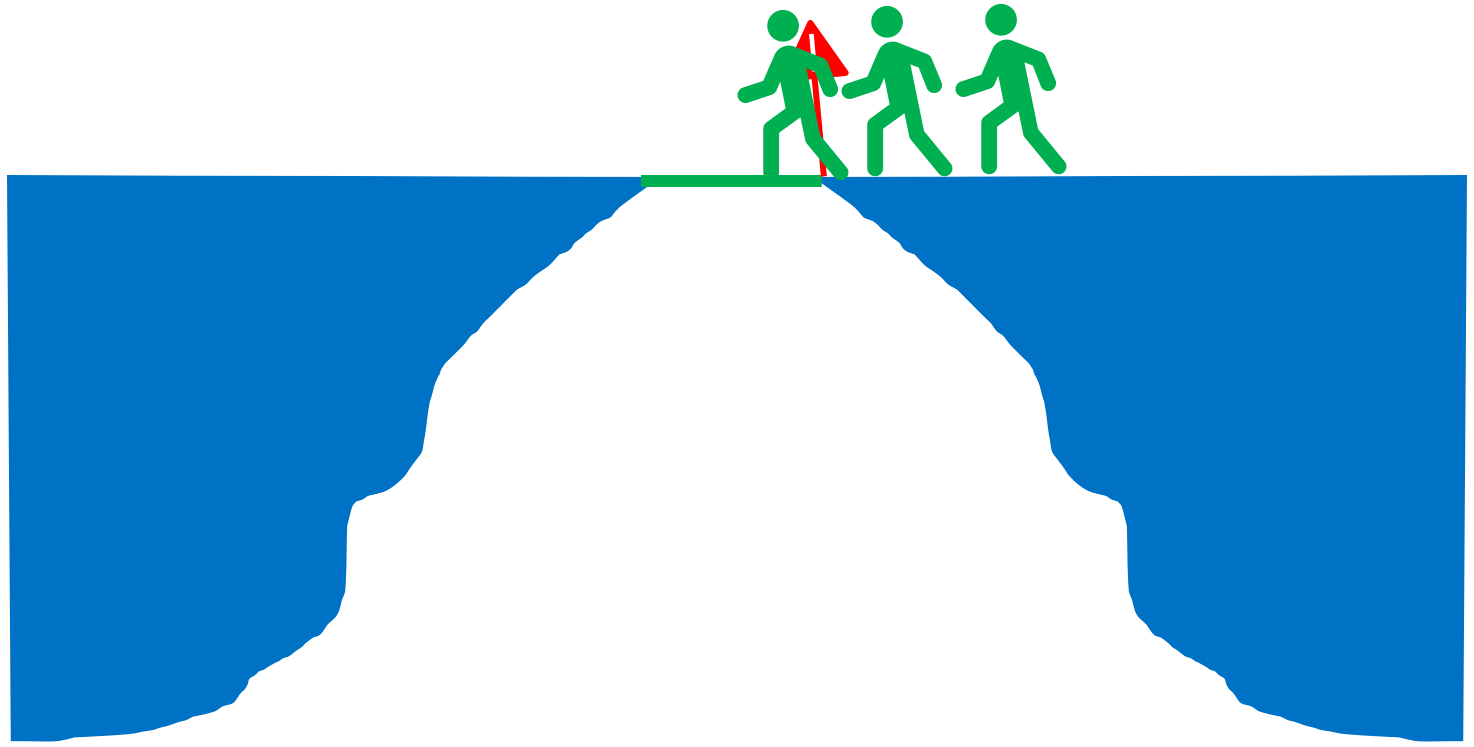

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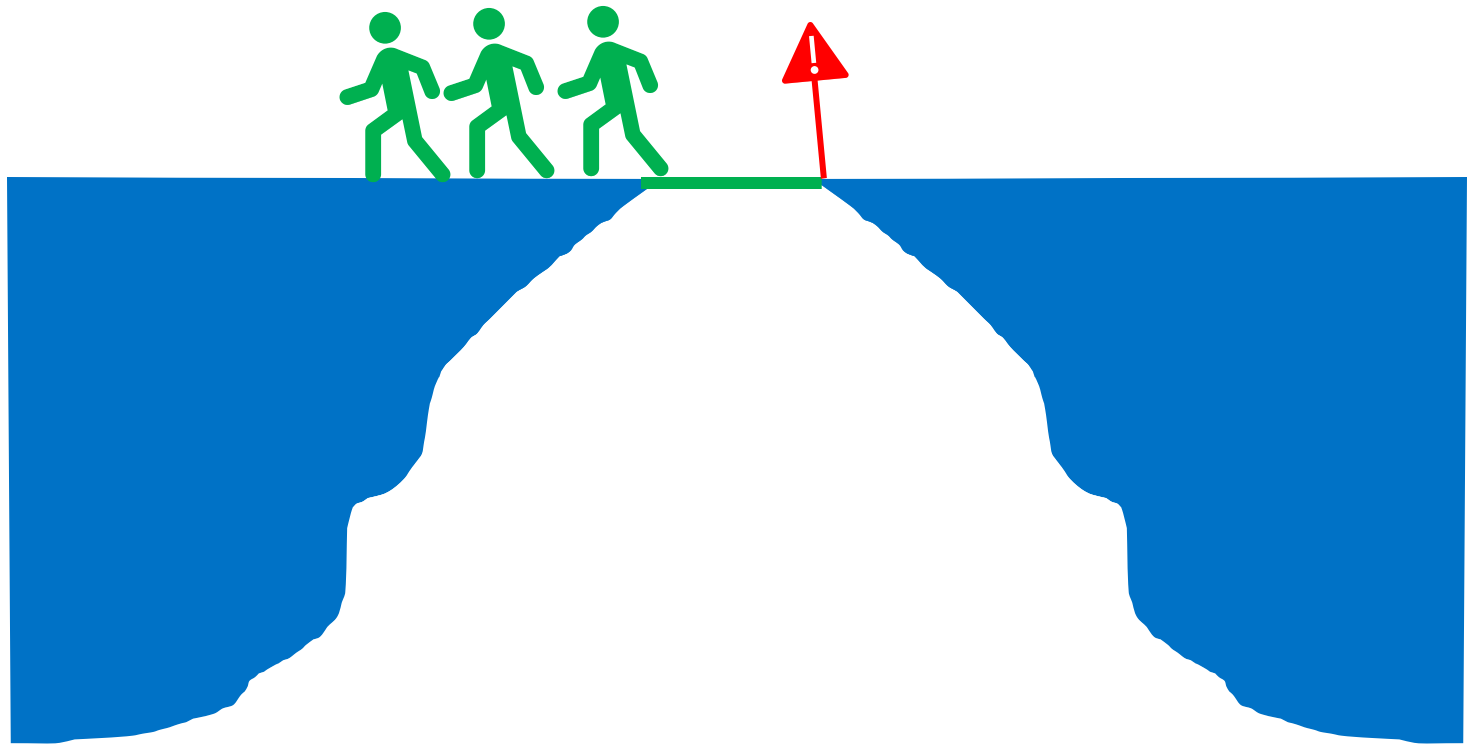

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Learn what ADRs are,

How to create and maintain them, &

How they keep you from repeating your mistakes

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Jonathan "J." Tower

Principal Consultant & Partner

TRAILHEAD
TECHNOLOGY PARTNERS

Microsoft MVP in .NET

jtower@trailheadtechnology.com

trailheadtechnology.com/blog

jtowermi

jtower

EXPERT
CONSULTATION

bit.ly/th-offer

github.com/trailheadtechnology/adrs

What is an **Architectual Decision Record**?

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Architecture Decision Records (ADR)

Document the “**why**” behind key **technical decisions** so your team doesn’t **forget**, **repeat mistakes**, or **guess** later.

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ADR Format

ADR Format

In the context of <use case/user story u>

ADR Format

In the context of <use case/user story u>
facing <concern c>

ADR Format

In the context of <use case/user story u>
facing <concern c>
we decided for <option o>

ADR Format

In the context of <use case/user story u>
facing <concern c>
we decided for <option o>
over <alternatives a>

ADR Format

In the context of <use case/user story u>
facing <concern c>
we decided for <option o>
over <alternatives a>
to achieve <quality q>

ADR Format

In the context of <use case/user story u>
facing <concern c>
we decided for <option o>
over <alternatives a>
to achieve <quality q>
accepting <downside d>

Benefits of Using ADRs

Create Accountability Without Blame

Persist important decisions long-term

Context for new team members

Document unimplemented decisions

Preserve the "Why" Behind Technical Decisions

Reduce Rework and Duplicate Debates

Lightweight Documentation

Make Your Architecture Discoverable

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ADRs By Example

THE LORD OF THE RINGS

Let’s Document That Decision…

With an ADR

Number

Unique, sequential number

For organization and reference, not importance or priority

Don’t overthink the numbering

No need to reserve or preplan numbers

Number

ADR #: 0001

Title

Use a short, present-tense phrase (like a commit message)

Stick to what was decided, not the rationale or outcome

Think of it like naming a file or PR title: concise, descriptive, no fluff

Title

ADR #: 0001

Title: Abandon the Pass of Caradhras and Enter the Mines of Moria

Filename

Summarize the title,
but even shorter

NNNN-short-title-with-dashes.md

Filename

```
0001-enter-moria.md
```

ADR #: 0001

Title: Abandon the Pass of Caradhras and Enter the Mines of Moria

Status

Status	Meaning
Proposed	Still being discussed—not final
Accepted	Actively in use or implemented
Rejected	We considered it, but didn’t go that route
Deprecated	The decision was made, but we’ve moved on or plan to replace it
Superseded	Replaced by another ADR (usually includes a reference to that ADR)

Status

```
0001-enter-moria.md
```

ADR #: 0001

Title: Abandon the Pass of Caradhras and Enter the Mines of Moria

Status: Accepted

Date

Use either **January, 13, 3019** or **3019-01-13** format

The date of the most recent status change

Date

```
0001-enter-moria.md
```

ADR #: 0001

Title: Abandon the Pass of Caradhras and Enter the Mines of Moria

Status: Accepted

Date: January 13, 3019 (Third Age)

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Context

The **situation** that prompted the decision

Relevant technical, business, or human constraints

Any known pain points or prior attempts

Context about the environment (time pressure, Saruman’s interference)

Context

`0001-enter-moria.md`

ADR #: 0001

Title: Abandon the Pass of Caradhras and Enter the Mines of Moria

Status: Accepted

Date: January 13, 3019 (Third Age)

Context: The Fellowship set out from Rivendell with the goal of reaching Mordor while avoiding detection. We originally planned to cross the Misty Mountains via the Pass of Caradhras, a straightforward route with minimal entanglements. However, the pass has proven impassable due to heavy snow, magical interference from Saruman, and a general lack of adequate cold-weather gear among team members (esp. Hobbits).

Decision

- Be **concise and direct**—avoid rambling or explanation.
- Stick to the **primary decision**. Put secondary details in “Consequences” or “Assumptions”)
- Write it like a command or declaration—use **present tense**.
  - *No "we might" or "probably should."*
  - *Say “We will use Azure Functions,” not “Azure Functions will be used.”*

Decision

```
0001-enter-moria.md
```

Decision: We will abandon the Caradhras route and proceed instead through the ancient Dwarven mines of Moria. While this path poses significant risks—including darkness, potential orc activity, and unknown system integrity—it offers shelter from surveillance and harsh environmental conditions.

Alternatives Considered [Optional]

- List the main alternatives you seriously considered.
- Briefly explain **why each was rejected or deferred**
- Keep it concise—just enough detail to understand the trade-offs
- Avoids "Why didn't you just do X?" questions later
- Shows your team did its homework—important when decisions are questioned
- Helps new team members understand the landscape of choices

Alternatives Considered [Optional]

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0001-enter-moria.md
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Decision: We will abandon the Caradhras route and proceed instead through the ancient Dwarven mines of Moria. While this path poses significant risks—including darkness, potential orc activity, and unknown system integrity—it offers shelter from surveillance and harsh environmental conditions.

Alternatives Considered:

- **Push forward over Caradhras -** *Rejected due to magical interference, risk of avalanche, and frozen hobbit toes.*
- **Detour south toward the Gap of Rohan -** *Dismissed due to increased exposure to enemy surveillance and geopolitical instability.*
- **Fly over the mountains on eagles -** *Shot down for being logistically implausible, tactically unsound, and way too obvious.*

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Deciders

- Who agreed to this?
- Who should you ask if you have questions?

Deciders

```
0001-enter-moria.md
```

Deciders: Gandalf the Grey

Contributors [Optional]

- Anyone who provided input, feedback, or research that influenced the decision
- Don’t include Deciders here

Contributors [Optional]

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0001-enter-moria.md
```

Deciders: Gandalf the Grey
Contributors: Aragorn, Legolas, Gimli, Boromir, Frodo, Sam, Merry, Pippin, Bill the Pony

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Assumptions [Optional]

- Technical assumptions (e.g., system capabilities, resource availability)
- Business or organizational assumptions (e.g., team skills, budget constraints)
- Environmental or external factors (e.g., vendor stability, market conditions)

Assumptions [Optional]

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0001-enter-moria.md
```

Deciders: Gandalf the Grey
Contributors: Aragorn, Legolas, Gimli, Boromir, Frodo, Sam, Merry, Pippin, Bill the Pony
Assumptions:

- The mines are still navigable (no cave-ins, blocked paths, or magical seals).
- Hostile forces within Moria are either dormant or avoidable.
- Gandalf remembers the way.
- The Ring will not attract undue attention underground (unlikely, but everyone's pretending otherwise).

Consequences

- Effects, risks, and trade-offs that result from the decision
- Positive outcomes and improvements
- Potential downsides, risks, or technical debt
- Impacts on team workflow, architecture, or performance
- Any follow-up actions or monitoring needed

Consequences

```
0001-enter-moria.md
```

Consequences:

- The team will move underground, losing visibility to the outside world and internet connectivity.
- Gandalf’s access to production is elevated, as he is the only team member with knowledge of the Moria subsystem.
- Risk of encountering legacy entities (e.g., the Balrog) that have not been maintained or documented in millennia.
- Morale impact: the Hobbits are nervous, Gimli is thrilled, and Boromir is grumbling again.
- If successful, we’ll emerge nearer to Lothlórien, ahead of schedule—but survivability metrics are uncertain.

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Reconsideration Conditions [Optional]

- Clear triggers for reviewing the decision
- Specific conditions that would invalidate the decision
- New technology, architecture shifts, team changes, or external factors to watch
- Performance issues, security incidents, or failures related to the decision

Reconsideration Conditions [Optional]

```
0001-enter-moria.md
```

Reconsideration Conditions:

- A Balrog is encountered.
- Gandalf is lost or incapacitated.
- The mines become impassable.
- A safer route becomes available unexpectedly.

Where Do ADRs Go?

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Where Do ADRs Go?

In the repo (with the code)

In a separate repo

Project wiki or documentation site

Dedicated ADR Tool

In the Repo with the Code

Pros ✅
- Versioned alongside code
- Easy for devs to find and update
- Supports code review workflows

Cons ❌
- Might clutter repo if not organized
- Requires discipline to write/update
- Messy with branching

In a Separate Repo

Pros ✅
- Easy for devs to use
- Central place for entire team
- Need for branching

Cons ❌
- Further from code and dev workflows
- Risk of ADRs drifting from code
- Harder for non-technical team to access

Project Wiki or Documentation Site

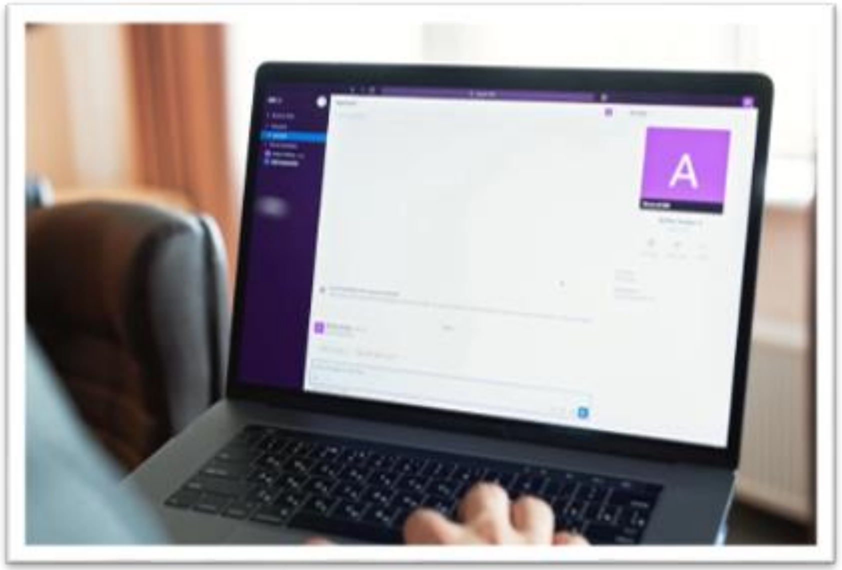
Pros ✅

- Easy for non-devs to access
- Central place for broader team
- Can link to ADRs from many places

Cons ❌

- Not version controlled with code
- Can become outdated quickly
- Harder to discover in dev workflows

Dedicated ADR Tools or Platforms



Pros ✅

- Built specifically for ADR management
- Features like status tracking, search, templates
- Can integrate with other tools

Cons ❌

- Extra setup and maintenance overhead
- Learning curve for team
- Risk of silo if not well integrated

ADR Tools

ADR-Manager
A web-based application for the efficient creation and management of architectural decision records (ADRs) in Markdown (MADR)
https://github.com/adr/adr-manager

Log4brains
Log4brains is a docs-as-code knowledge base that enables you to log Architecture Decision Records (ADR) right from your IDE and to publish them automatically as a static website.
https://github.com/thomvaill/log4brains

Loqbooq
Loqbooq gives you a solid log of all important decisions and considerations that is always accessible to everybody in the project. Includes Slack integration.
https://loqbooq.app/

ADR Tools (Continued)

ADR Tools
A command-line tool for working with a log of Architecture Decision Records (ADRs).
https://github.com/npryce/adr-tools

dotnet adr
A cross-platform .NET Global Tool for creating and managing Architectural Decision Records (ADR).
https://github.com/endjin/dotnet-adr

ADR Manager VS Code Extension
Visual Studio Code (VS Code) extension based on the ADR Manager
https://marketplace.visualstudio.com/items?itemName=StevenChen.vscode-adr-manager

Common ADR **Mistakes** to Avoid

Writing ADRs After the Fact Just to “Check a Box”

- Write ADRs during the decision process
- A half-finished, “proposed” ADR is better than none
- Treat ADRs like commit messages for your architecture

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Burying the Decision in a Wall of Context

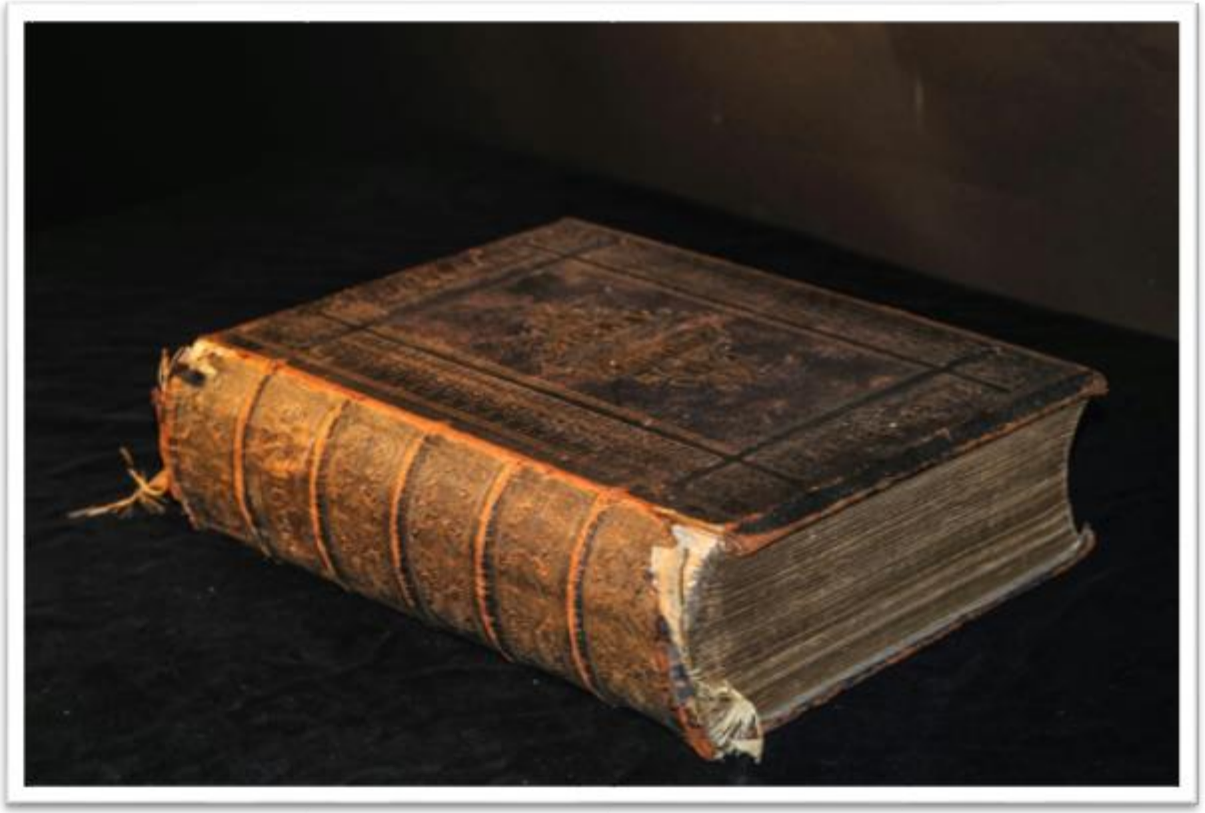
- Make the Decision section short, bold, and easy to find
- Put just enough in the context section to explain the problem
- Use structure and headings well

Not Updating the Status When it Changes

- Use status fields and keep them updated
- Open follow-up ADRs, references the old one, and update the original

Writing Novels Instead of Decisions

- Think of ADRs like well-structured release notes for architecture: What changed, Why, What it affects
- Use headings, bullets, short paragraphs
- Be specific, direct, and easy to skim
- Capture the insight, not the whole existential journey



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ADRs That Don't Explain *Why*

- Always include the rationale: the trade-offs, constraints, and motivations behind the choice
- Think of it as writing for future you, 6 months from now, who's forgotten everything.
- Ask yourself: "Would this still make sense to someone who wasn't in the room?"

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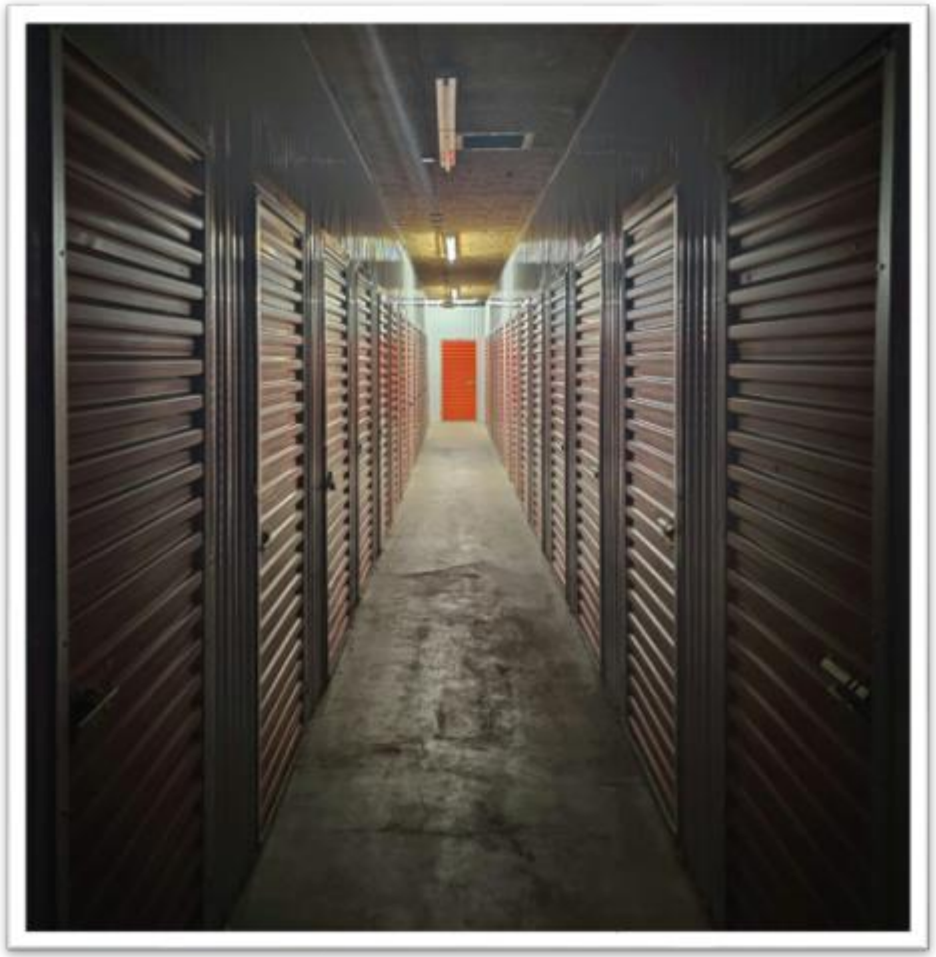
Storing Them in a System No One Uses



- Keep ADRs as close to the code as possible
- Use plain-text formats like Markdown so they’re easy to diff, review, and grep
- Link to ADRs from READMEs, wikis, and PRs to surface them at the right moment

Never Revisiting or Updating Them

- Schedule periodic reviews of major architectural decisions—especially before large refactors, migrations, or team transitions
- Use statuses like Deprecated, Superseded, or Amended to track evolution
- Don't be afraid to create follow-up ADRs that build on or replace earlier ones
- Add a "Reconsideration Conditions" section from the start to help future-you know when to revisit

Summing Up

1. ADRs capture **otherwise hidden decisions** and trade-offs
2. They are made up of **several simple components** that capture the decision
3. Best to store them **near the code**, but consider pros and cons
4. Avoid **common mistakes** made with ADRs

TRAILHEAD TECHNOLOGY PARTNERS

Thanks! Questions?

Jonathan "J." Tower

Microsoft MVP in .NET

jtower@trailheadtechnology.com

trailheadtechnology.com/blog

jtowermi

jtower

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