

# dottimeline Package

Horizontal Milestone Timeline for LaTeX

Version 4.0

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# 1 Overview

The `dottimeline` package provides a simple yet powerful way to create horizontal milestone timelines in LaTeX documents. It supports both date-based positioning (for accurate timelines) and automatic spacing (for conceptual timelines).

## 1.1 Key Features

- **Date-based positioning:** Milestones are placed proportionally based on actual dates
- **Automatic spacing:** Even distribution when dates are not specified
- **Label rotation:** Support for 0°, 45°, and 90° label angles
- **Per-milestone height:** Individual control over vertical spacing
- **Highlighted milestones:** Special markers for important events
- **Date markers:** Optional month/quarter markers on the timeline
- **Customizable colors:** Change timeline and highlight colors

## 2 Installation

### 2.1 Option 1: Local Installation (Recommended)

Place `dottimeline.sty` in the same directory as your `.tex` file:

```
1 project/  
2   main.tex  
3   dottimeline.sty
```

### 2.2 Option 2: System-Wide Installation

```
1 # Find your texmf directory  
2 kpsewhich -var-value=TEXMFHOME  
3  
4 # Create directory and copy file  
5 mkdir -p ~/texmf/tex/latex/dottimeline  
6 cp dottimeline.sty ~/texmf/tex/latex/dottimeline/  
7  
8 # Update filename database  
9 texhash ~/texmf
```

### 2.3 Required Packages

The package automatically loads:

- `tikz`
- `xifthen`
- `xparse`
- `kvoptions`
- `pgfcalendar` (via `tikz`)

## 3 Basic Usage

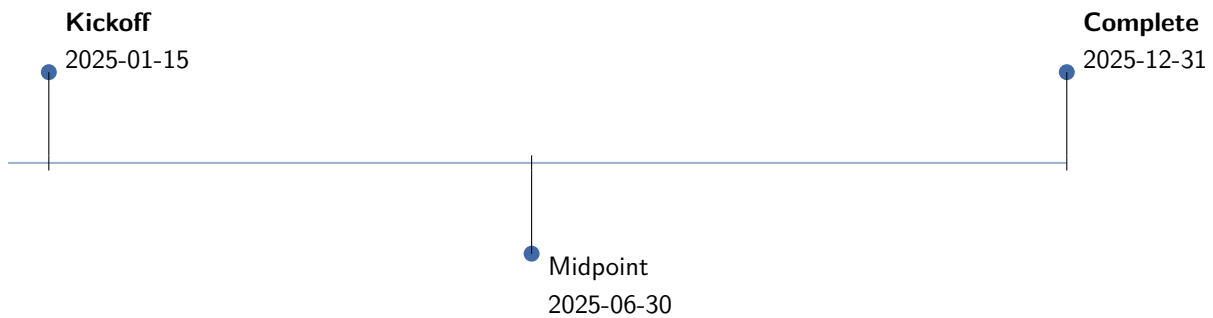
### 3.1 Simple Timeline

```
1 \begin{timeline}[width=14]
2   \milestone[above]{2025-01-15}{Kickoff}
3   \milestone[below]{2025-06-30}{Midpoint}
4   \milestone[above]{2025-12-31}{Complete}
5 \end{timeline}
```



### 3.2 Timeline with Date Range

```
1 \begin{timeline}[width=14,startdate=2025-01-01,enddate=2025-12-31]
2   \milestone[above]{2025-01-15}{Kickoff}
3   \milestone[below]{2025-06-30}{Midpoint}
4   \milestone[above]{2025-12-31}{Complete}
5 \end{timeline}
```



## 4 Environment Options

All options are set in the optional argument of the `timeline` environment.

Option	Default	Description
<code>width</code>	14	Timeline width in centimeters
<code>heightabove</code>	1.5	Default height above timeline (cm)
<code>heightbelow</code>	1.5	Default height below timeline (cm)
<code>dotsize</code>	3pt	Size of milestone dots
<code>color</code>	<code>timelineblue</code>	Main timeline color
<code>highlightcolor</code>	<code>timelineorange</code>	Color for highlighted milestones
<code>startdate</code>	empty	Start date for date-based positioning (YYYY-MM-DD)

Option	Default	Description
enddate	empty	End date for date-based positioning (YYYY-MM-DD)
rotation	0	Label rotation angle in degrees (0, 45, 90)
labelwidth	3cm	Width of label text box
fontsize	\small	Font size for labels

## 4.1 Color Options

You can use predefined colors or define your own:

```

1 % Predefined colors
2 \begin{timeline}[color=timelineblue,highlightcolor=timelineorange]
3
4 % Custom colors (define in preamble)
5 \definecolor{myblue}{RGB}{0,100,200}
6 \begin{timeline}[color=myblue]
```

## 5 Milestone Commands

### 5.1 \milestone

Adds a standard milestone to the timeline.

```

1 \milestone[position][options]{date}{label}
```

#### Parameters:

- position (optional): above (default) or below
- options (optional): Per-milestone height settings
- date: Milestone date (YYYY-MM-DD format recommended)
- label: Milestone text label

#### Examples:

```

1 % Basic usage
2 \milestone[above]{2025-01-15}{Kickoff Meeting}
3 \milestone[below]{2025-02-20}{Review}
4
5 % With custom height
6 \milestone[above][heightabove=2.5]{2025-03-15}{Long Label Text}
7 \milestone[below][heightbelow=2.0]{2025-04-10}{Another Label}
8 \milestone[above][height=3.0]{2025-05-01}{Very Tall}
```

### 5.2 \highlightmilestone

Adds a highlighted milestone (different color) for important events.

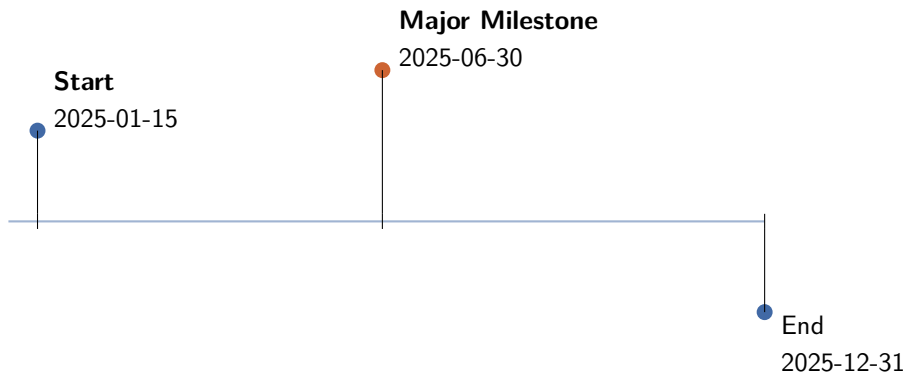
```

1 \highlightmilestone[position][options]{date}{label}
```

#### Example:

```

1 \highlightmilestone[above][heightabove=2.5]{2025-12-31}{Project Complete}
```



### 5.3 `\milestoneat`

Adds a milestone at a specific x-position (overrides date positioning).

```
1 \milestoneat[position][options]{x}{date}{label}
```

**Example:**

```
1 \milestoneat[above]{0}{2025-01-01}{Start}
2 \milestoneat[below]{7}{2025-06-30}{Middle}
3 \milestoneat[above]{14}{2025-12-31}{End}
```

### 5.4 `\timelinetitle`

Adds a title above the timeline.

```
1 \timelinetitle{Your Timeline Title}
```

### 5.5 `\datemarker`

Adds date markers (e.g., month labels) on the timeline.

```
1 \datemarker{date}{label}
```

**Example:**

```
1 \datemarker{2025-02-01}{Feb}
2 \datemarker{2025-04-01}{Apr}
3 \datemarker{2025-06-01}{Jun}
```

## 6 Per-Milestone Options

These options can be set individually for each milestone:

Option	Example	Description
<code>heightabove</code>	<code>[heightabove=2.5]</code>	Height for above milestones only
<code>heightbelow</code>	<code>[heightbelow=2.0]</code>	Height for below milestones only
<code>height</code>	<code>[height=3.0]</code>	Sets both above and below heights

## 7 Complete Examples

### 7.1 Project Timeline

```
1 \begin{timeline}[
2   width=16,
3   heightabove=1.5,
4   heightbelow=1.5,
5   startdate=2025-01-26,
6   enddate=2025-12-11
7 ]
8   \timelinetitle{Project Timeline}
9   \milestone[above]{2025-01-26}{Kickoff}
10  \milestone[below]{2025-02-06}{Vendor Selection}
11  \milestone[above]{2025-03-15}{Requirements}
12  \milestone[below]{2025-04-12}{Prototype}
13  \highlightmilestone[above][heightabove=2.5]{2025-09-02}{User Training}
14  \milestone[below]{2025-10-20}{UAT Complete}
15  \milestone[above]{2025-12-01}{Go-Live}
16
17  \datemarker{2025-04-01}{Apr}
18  \datemarker{2025-08-01}{Aug}
19  \datemarker{2025-12-01}{Dec}
20 \end{timeline}
```

### 7.2 Compact Timeline

```
1 \begin{timeline}[
2   width=16,
3   heightabove=0.8,
4   heightbelow=0.8,
5   labelwidth=2cm,
6   fontsize=\footnotesize,
7   rotation=45,
8   startdate=2025-01-01,
9   enddate=2025-12-31
10 ]
11  \milestone[above]{2025-01-15}{Phase 1}
12  \milestone[below]{2025-02-20}{Review}
13  \milestone[above]{2025-03-31}{Milestone 1}
14  \milestone[below]{2025-05-10}{Phase 2}
15  \milestone[above]{2025-06-30}{Midpoint}
16  \milestone[below]{2025-08-15}{Milestone 2}
17  \milestone[above]{2025-10-01}{Phase 3}
18  \milestone[below]{2025-12-31}{Complete}
19 \end{timeline}
```

### 7.3 Vertical Labels

```
1 \begin{timeline}[
2   width=16,
3   rotation=90,
4   heightabove=1.0,
5   heightbelow=1.0,
6   labelwidth=1.5cm,
7   startdate=2025-01-01,
8   enddate=2025-12-31
9 ]
10  \milestone[above]{2025-01-15}{Kickoff}
11  \milestone[below]{2025-03-31}{Phase 1}
```

```

12 \milestone[above]{2025-06-30}{Phase 2}
13 \milestone[below]{2025-09-30}{Phase 3}
14 \milestone[above]{2025-12-31}{Complete}
15 \end{timeline}

```

## 8 Tips and Best Practices

### 8.1 Avoiding Label Overlaps

- Use `rotation=45` for dense timelines
- Increase `heightabove/heightbelow` for long labels
- Reduce `labelwidth` for shorter text boxes
- Use `fontsize=\footnotesize` for compact layouts

### 8.2 Date Format

- **Recommended:** YYYY-MM-DD (ISO format)
- **Alternative:** DD-Mon-YYYY (e.g., 26-Jan-2025)
- **Short:** DD-Mon (uses current year)

### 8.3 Color Customization

```

1 % In preamble
2 \definecolor{myblue}{RGB}{0,100,200}
3 \definecolor{myorange}{RGB}{255,150,50}
4
5 % In timeline
6 \begin{timeline}[color=myblue,highlightcolor=myorange]

```

### 8.4 Multiple Timelines

You can include multiple timelines in one document:

```

1 % Timeline 1
2 \begin{timeline}[width=14,startdate=2025-01-01,enddate=2025-06-30]
3   ...
4 \end{timeline}
5
6 \vspace{2cm}
7
8 % Timeline 2
9 \begin{timeline}[width=14,startdate=2025-07-01,enddate=2025-12-31]
10   ...
11 \end{timeline}

```

## 9 Troubleshooting

### 9.1 Common Errors



Error	Solution
Dimension too large	Use TeX count registers (fixed in v3.0+)
Missing number	Ensure date format is YYYY-MM-DD
Undefined control sequence	Check all required packages are installed
Package hangs	Avoid nested optional arguments (fixed in v3.1+)

## 9.2 Compilation Issues

- Run `pdflatex` twice for proper positioning
- Clear auxiliary files if errors persist: `rm *.aux *.log`
- Ensure `dottimeline.sty` is in the correct location

## 10 Version History

Version	Date	Changes
v1.0	2026-02-25	Initial release with basic timeline
v1.1	2026-02-25	Fixed tabular/minipage issues
v1.2	2026-02-25	Improved line break handling
v2.0	2026-02-25	Added date-based positioning
v2.1	2026-02-25	Fixed pgfcalendar library loading
v2.2	2026-02-25	Fixed dimension overflow errors
v2.3	2026-02-25	Fixed counter/register mixing
v3.0	2026-02-25	Added rotation and compact options
v3.1	2026-02-25	Fixed hanging issues, simplified API
v3.2	2026-02-25	Fixed rotate origin syntax error
v4.0	2026-02-25	Added per-milestone height control

## 11 License

This package is free to use and modify. No warranty is provided.

## 12 Support

For issues or feature requests, please check the package documentation or consult LaTeX community forums.