

Cave Rescue Techniques

English handbook 2015

by the

Cave Rescue National School of CNSAS



In a few days you will find on line the
English version of our new handbook **2015**
on Cave Rescue Techniques

The handbook was written by the
Cave Rescue National School of CNSAS

The release **2015** is just an **updating** of the previous
papery italian edition **2013**



CORPO NAZIONALE SOCCORSO ALPINO E SPELEOLOGICO

Tecniche di soccorso in grotta ²⁰¹⁵

A cura della Scuola Nazionale Tecnici
di Soccorso Speleologico



CORPO NAZIONALE SOCCORSO ALPINO E SPELEOLOGICO

Cave Rescue Techniques ²⁰¹⁵

Scuola Nazionale Tecnici
di Soccorso Speleologico

ECRA - 9th European Cave Rescue Meeting – Mescekhaza



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We need your opinion

We believe that sharing the experience and techniques developed by the Rescue Organizations can improve the efficiency and rapidity of a rescue.

We hope that what the Italian [Corpo Nazionale del Soccorso Alpino e Spelologico](#) and its [training departments](#) have done can initiate a discussion among the experts.

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Thank you,

The Scuola Nazionale Tecnici Di Soccorso Speleologico



Why an English version?

First of all because we want to give an **international breath** to the result of decades of uninterrupted experiences, changes and improvements **involving every level** of our organization since '80s

Second because we aim to promote a transnational dialogue and a **more fruitful collaboration** to increase the technical skills

Third because we want to give a contribution to set up a **common language**

For these reasons we chose an **open source** of diffusion such as the electronic format

The handbook is released under a **Creative Commons** license **4.0** imposing few limits

We only ask you to **acknowledge** the **CNSAS** **legitimate authorship** of the document

The handbook has largely a **technical slant** and it is organized in three sections:

basic techniques, using double ropes
(haul and back-up line)

advanced techniques, for specific situations

lightweight techniques (using single rope) for a more efficient use of the material, speeding up the teams work-flow

Warning:

The handbook speaks **only** about
safer and faster **lifting techniques**
to haul a casualty
on pitches and vertical section

This is only one of **many aspects**
of a cave rescue operation

How lifting techniques take part in **time management** of a cave rescue operation?

Analysis of the reports
of **6** different rescue exercises
as close as possible to real rescue operation

Obviously this analysis doesn't take care of
specific medical conditions

DATA	ORA	DA	A	TIPO	Note
3-nov		12.34 SMS ALERT	Cris	SMS	Preallarme per mancato rientro in canin sentire disponibilità
3-nov		12.34 CS	V CS	Chiamata	Informare nucleo TV e mettere in preallarme
3-nov		12.36 CS	V CS2	Chiamata	Informare nucleo BL e mettere in preallarme
3-nov		12.38 CS	Sauro	Chiamata	Disponibile ma con riserva (parte il 9 in messico)
3-nov		12.40 CS	Della Rocca	Chiamata	Disponibile
3-nov		12.42 CS	De Checchi	Chiamata	Non risp
3-nov		12.42 CS	Baroncini	Chiamata	Non risp
3-nov		12.43 CS	Zocca	Chiamata	Ok preallarme da valutare la disponibilità
3-nov		12.45 CS	Ferrarese	Chiamata	Ok preallarme da valutare la disponibilità
3-nov		12.47 CS	Bordin	Chiamata	Disponibile
3-nov		12.49 CS	Gallo	Chiamata	Spento
3-nov		12.50 CS	Pirovano	Chiamata	A TV ma con attrezzatura, disponibile
3-nov		12.53 CS	Delegato	SMS	"I sanitari li sento io?"
3-nov		12.59 V CS	CS	Chiamata	De Vivo e Carniato non rispondono; Negroni e Sitta non disp; Gressani e Campion disponibili
3-nov		13.07 CS	Mascagna	Chiamata	Non risp
3-nov		13.08 CS	Irsara	Chiamata	Disponibile
3-nov		13.12 CS	Baroncini	Chiamata	Disponibile
3-nov		13.20 Delegato	CS	SMS	"I sanitari li chiamo direttamente io"
3-nov		13.22 V CS2	CS	Chiamata	Disponibilità nucleo BL
3-nov		13.27 CS	Delegato	Chiamata	Comunicata disponibilità venor
3-nov		14.07 De Checchi	Cris	Chiamata	Deve valutare la disponibilità per impegni di lavoro
3-nov		14.10 CS	VENOR	SMS	Via mail aggiornamento e sintesi disponibilità
3-nov		14.20 CS	Gallo	Chiamata	Gallo è in preallarme come GLD
3-nov		14.59 Mascagna	CS	Chiamata	Chieste informazioni su marniga, spedita via mail dichiarazione iscrizione e L.162
3-nov		16.47 CS	VENOR	SMS	Via mail aggiornamento
3-nov		18.58 VCS	CS	SMS	"Tono disponibile da venerdì"
3-nov		20.32 Delegato	Cris	SMS	"Cessato allarme. Sono riusciti a passare sifone e ora sono al campo a -780"
3-nov		20.32 Cris	Delegato	SMS	"Ok grazie"
3-nov		20.34 CS	VENOR	SMS	"Allarme rientrato, hanno passato il sifone, confermare ricezione mess"
3-nov	20.36 - 23.21	VENOR	CS	SMS	Conferma ricezione mess di: Irsara, D'Alberto, Bordin, Tommasi, Mascagna, Della Rocca, De Checchi, Zocca, Ferrarese, Salogni, Zerboni, Perizzolo, Grotto, Turus, Baroncini, Sauro, Guarrella, Campion, Gressani, Carniato, De Vivo, Pirovano, Gallo

Comparison of different situation

in **deep** caves from -400 to -650
with more than **30** vertical sections

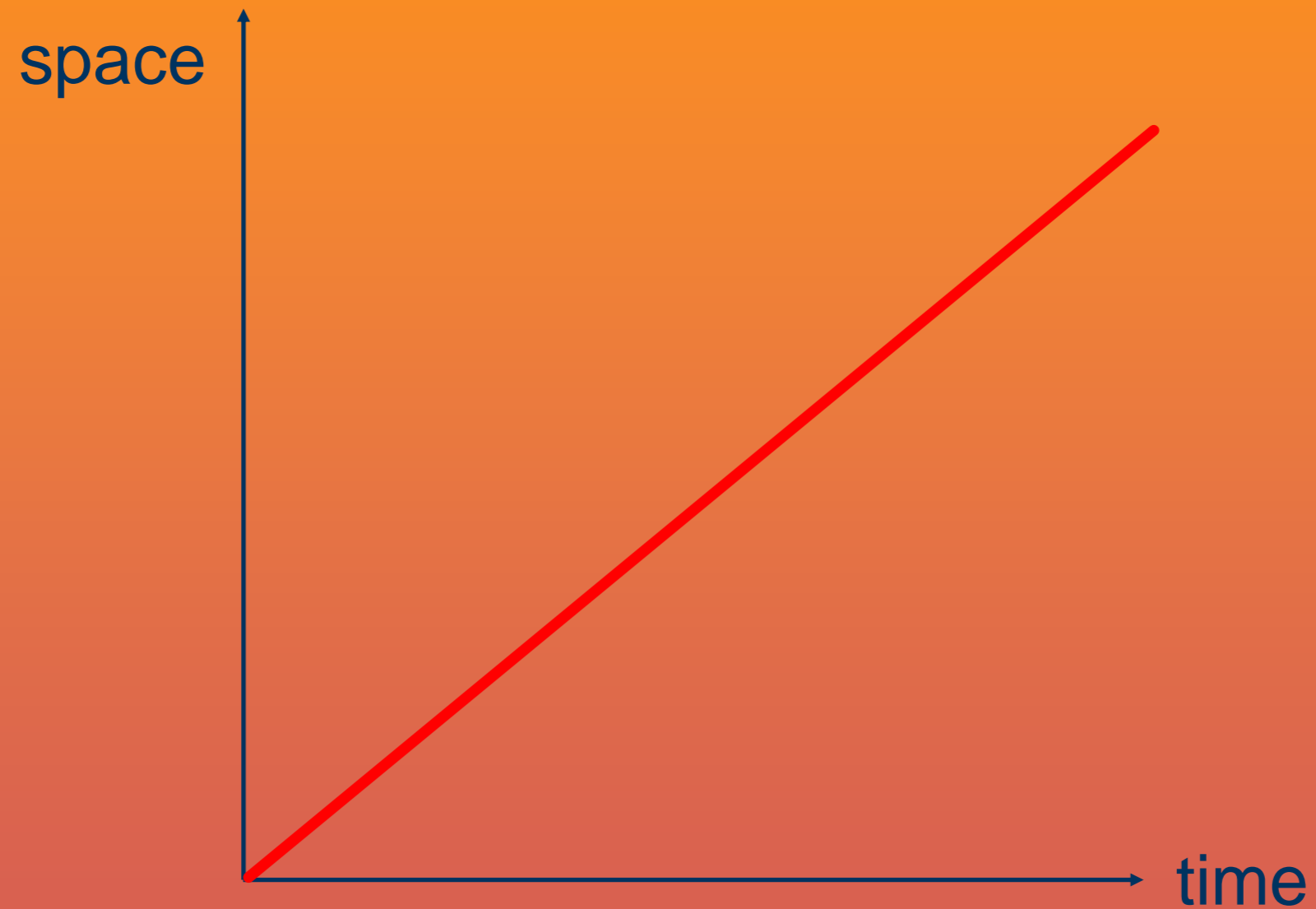
in about **10 years** from 2005 to 2015

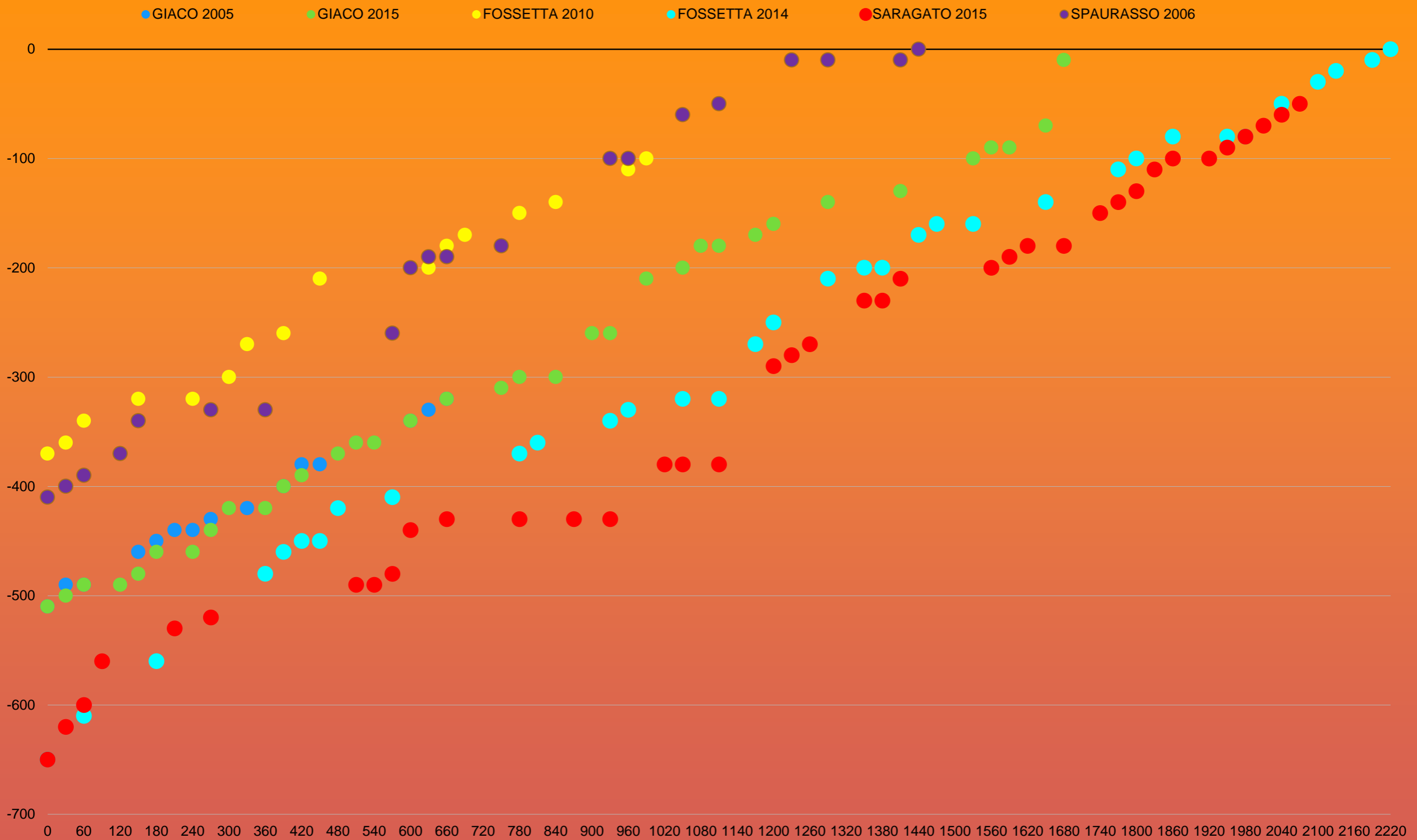
with **different organization** of the rigging teams

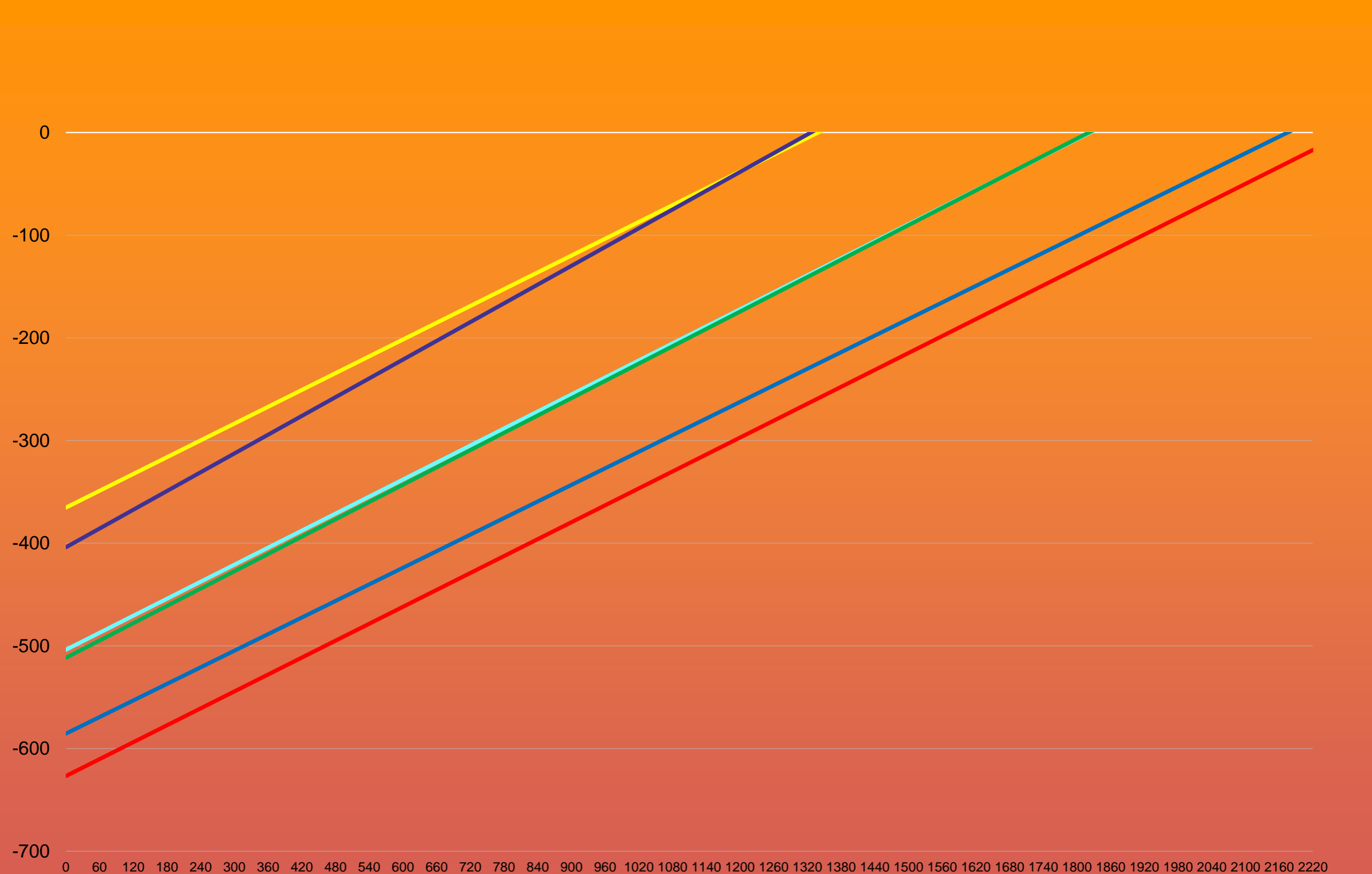
using **double o single** rope techniques

with **replace** of the rescue team

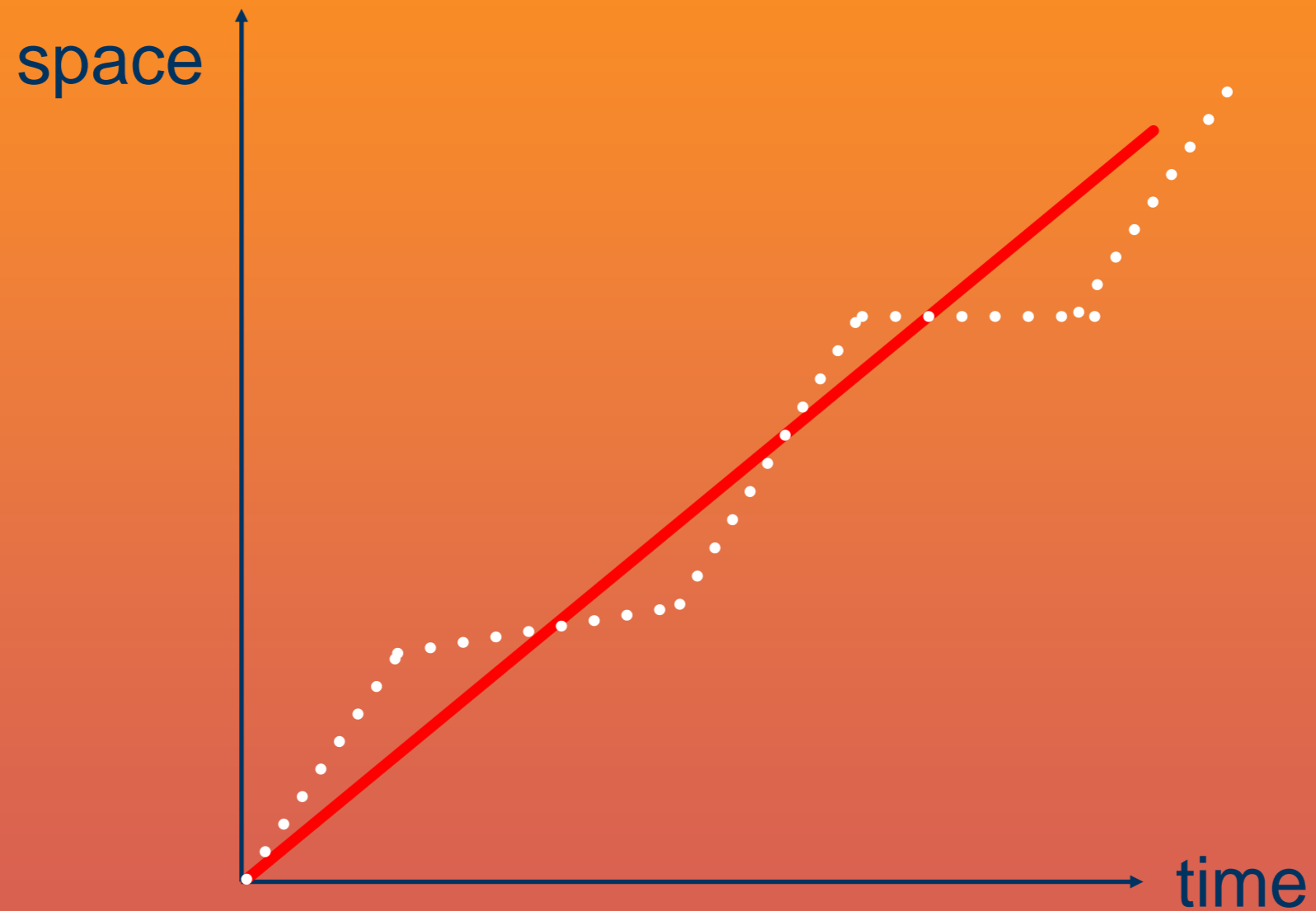
From report to timeline-chart



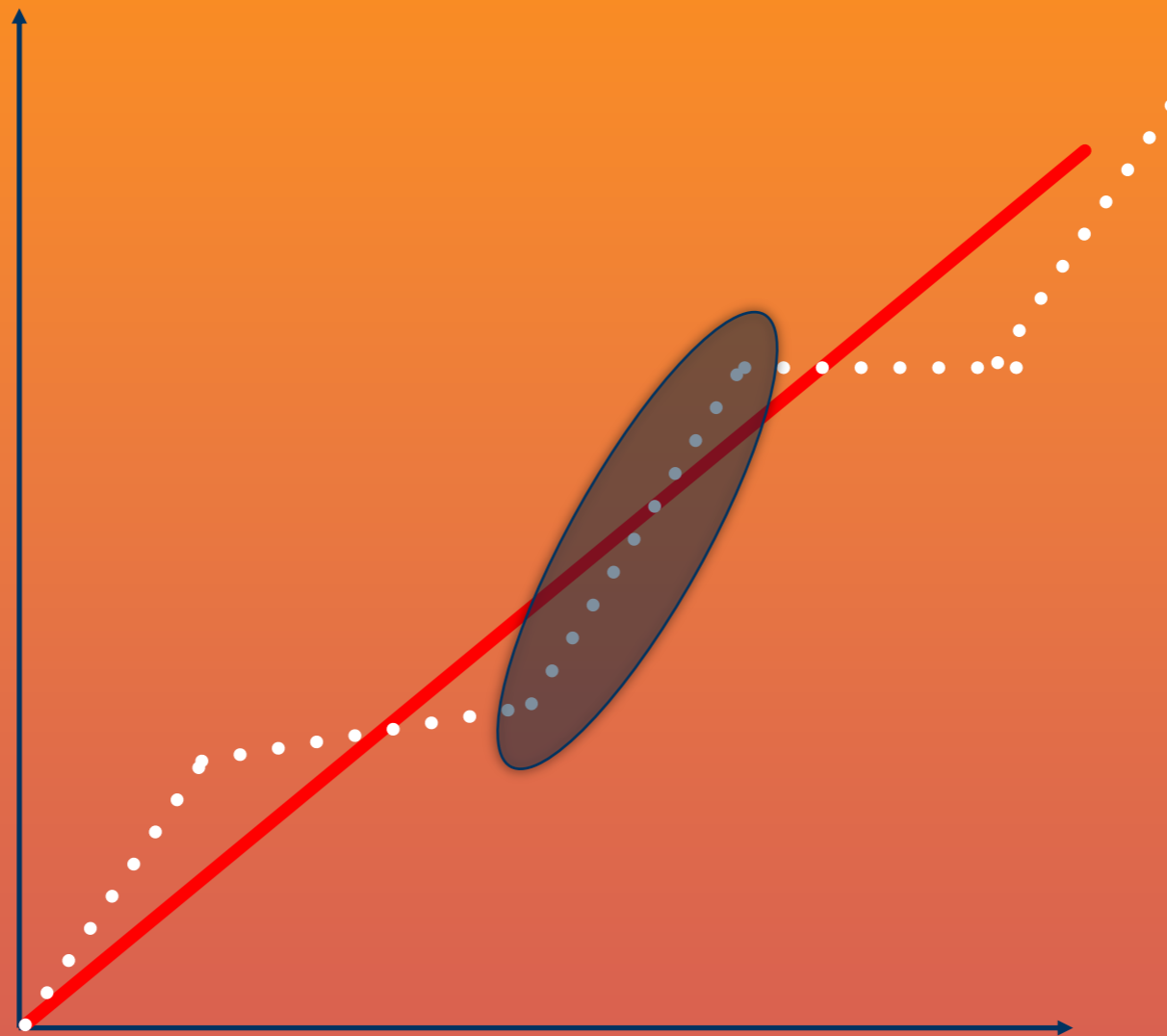




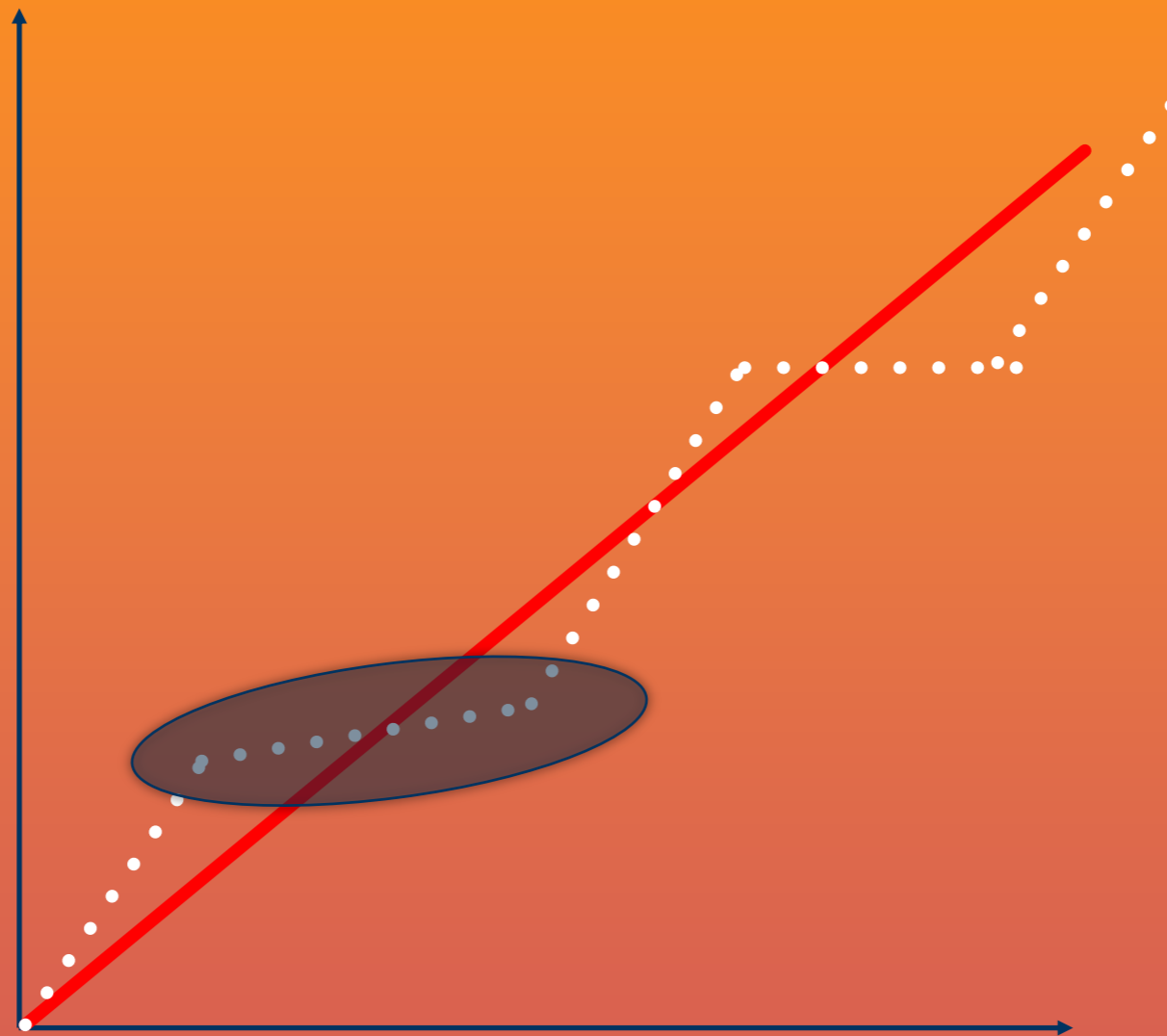
The timeline is in reality a sawtooth-line



Slope: lifting techniques by the rigging teams



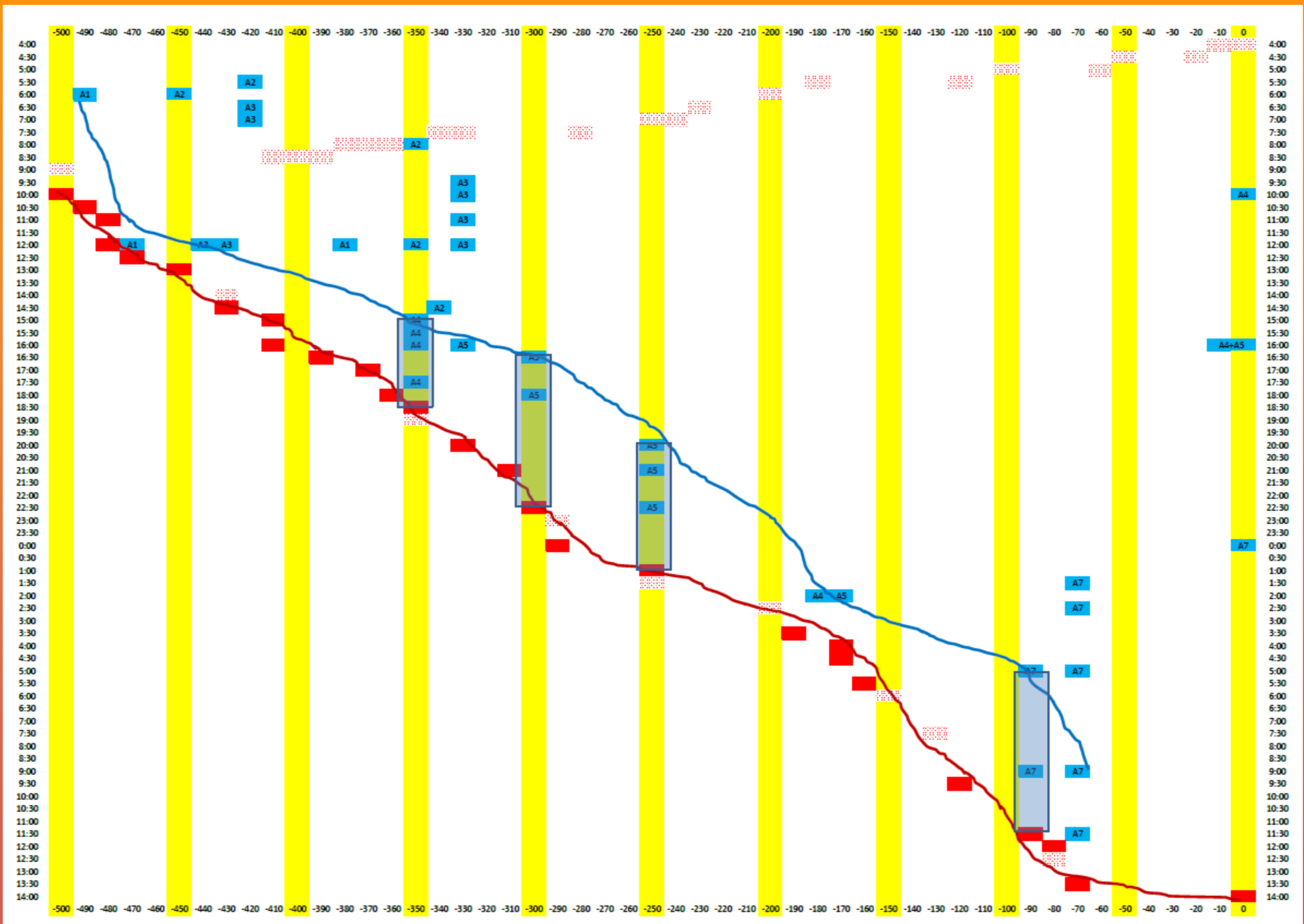
Flat: operation on the casualty by the stretcher team



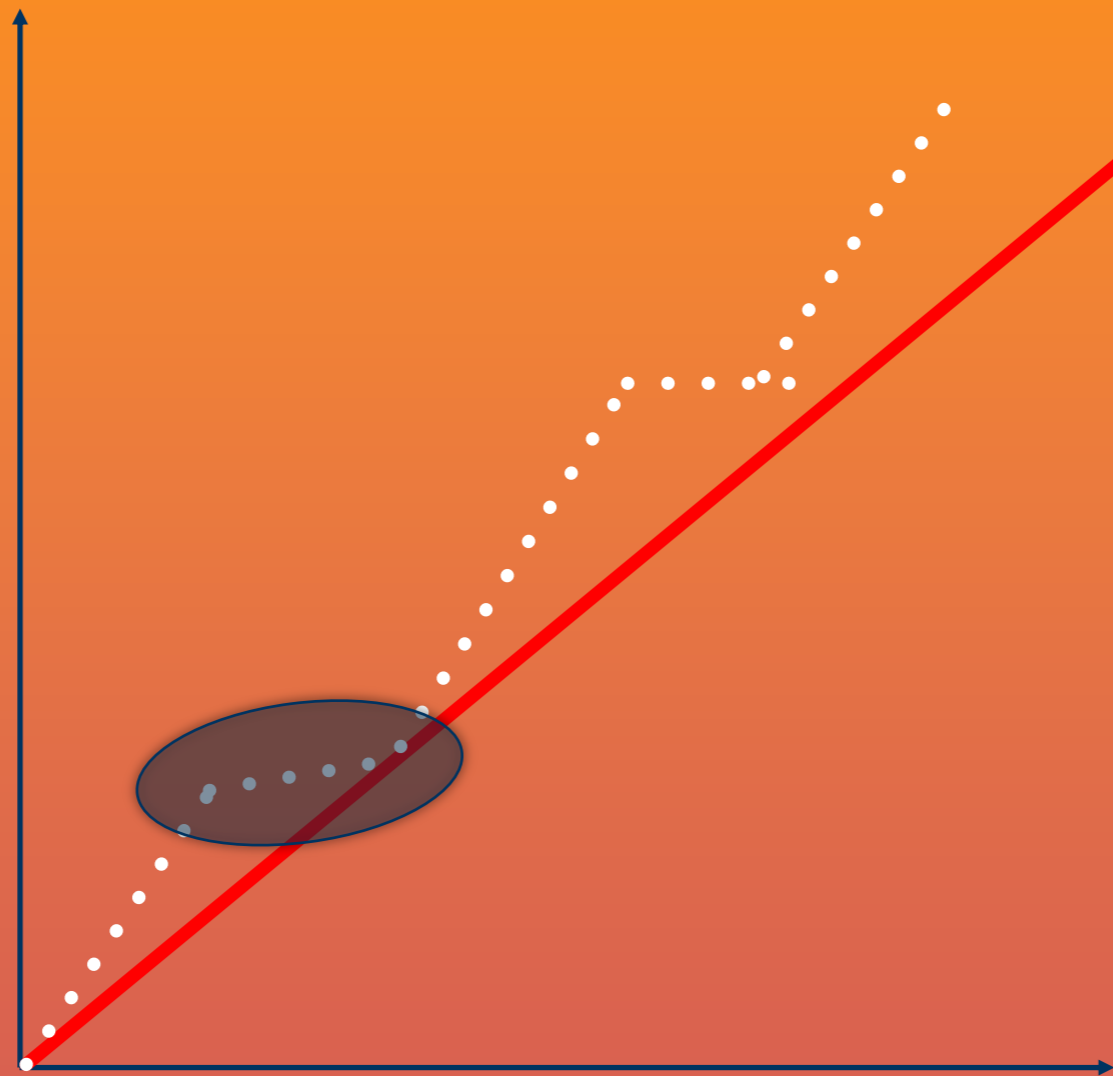
Emerging items

With the **evolution** of lifting techniques the rigging teams are **much more faster** than the stretcher

The rigging teams **waste a long time** waiting for the casualty on pitches



To speed up rescue operations we need to **manage logistics and downtime** of the stretcher team



Target: to make the flat part shorter

What we are working for

Logistics and downtime management means:

to choose **skilled** rescue technicians
in the stretcher team

to manage **materials and equipment** next to
the stretcher

to speed the stretcher-bearers **exit up**

to improve the stretcher **transport techniques**

to improve rigging team **alteration**
and team **replacement**