



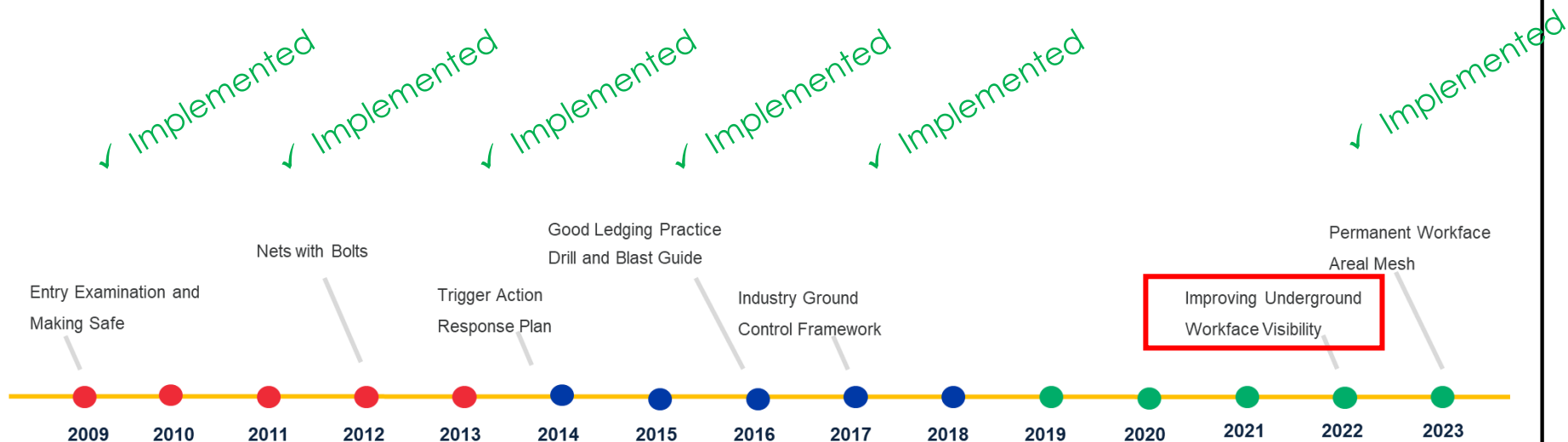
Driefontein Masakhane Shaft

In-stope lights
05/07/2024

- **Background**
- **Product information**
- **Installation layout & Design**
- **Implementation status**
- **Photos**
- **Advantages & Disadvantages**
- **Precautions**

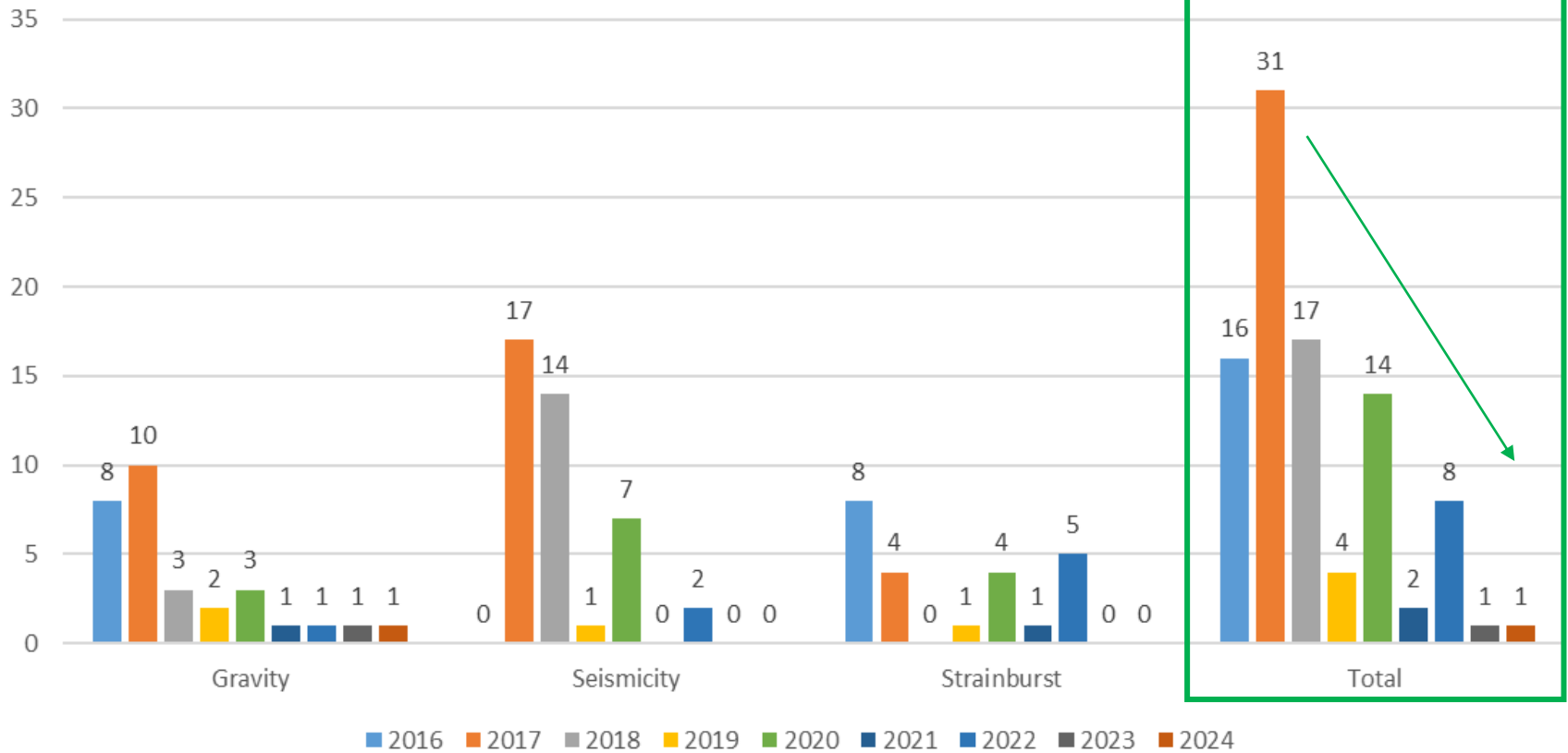
Leading Practice Adoption

- Sibanye Stillwater Gold Division is on permanent blast-on mesh on all the shafts, except for the lower risk shafts which the implementation is on a Risk assessment base.
- The next step as per the leading practice were to roll out and implement the instope lights into all the working places.



FOG Statistics - Masakhane shaft

Fall of Ground Stats



Instope Lights Quote



Safe · Robust · Durable

x-Glo Distributions (Pty) Ltd
16 Sable Street, Schoongezigt Estate,
Cashan 7, Rustenburg, 0299
082-775-7513
Director: V van Heerden

QUOTE no: ~~XG20022A~~ XG191223A
Attention: ~~Braam de Plessis~~ Mosala Motung

Vendor no: TRG0056

~~20 October 2023~~ 19 December 2023 *ml*

RE: 49,95 meters x 24 LED-36 volts x-Glo LED strips, power one end WITH 300watt controller

We thank you for your valued enquiry. Please see the following quote:

Code	Item	Unit	Quantity	Price/m (excl VAT)	Total price (excl VAT)
24LED-36volts	24LED-36volts strips (power 1 end) max 49.95metres per roll	m	49.95	601.50	30,044.93
300watt-36volts	300watt controller single outlet 36volts	ea	1	2,698.27	2,698.27
Total excl VAT					32,743.20

General terms:

Warranty	36volts - 5 years from delivery date
Delivery Period	2 weeks from PO date
Quotation validity	30 days (exchange rate fluctuations)

*Please note, we have volume discounts for PO >50 boxes *ml* @ R535,09/meter .*

All items are made to order and there will be no refunds on cancelled orders.
Mine to provide their own cable ties to attach the LED strips where needed.
Delivery fee subject to change when order quantities changes.

Please note:

You need 1 x controller per 49.95meters (per roll).

Should you require any further information, please contact us at any time.

Kind regards

Veroeska van Heerden
South African x-Glo Distributor
veroeska@xgl.co.za

Instope Lights illumination systems

The High PF Constant Voltage Waterproof LED Power Supply for in-stope lighting to be installed by a qualified Electrician.



Dual Controller - LED Power Supply



Single Controller - LED Power Supply

Electrical connections – Winch starter and electrical boxes equipped with 36 Volts controller and connection plug.

Instope Lights illumination systems



Male Connection on Strip Lights

Female Connection with dust cover from Power Supply



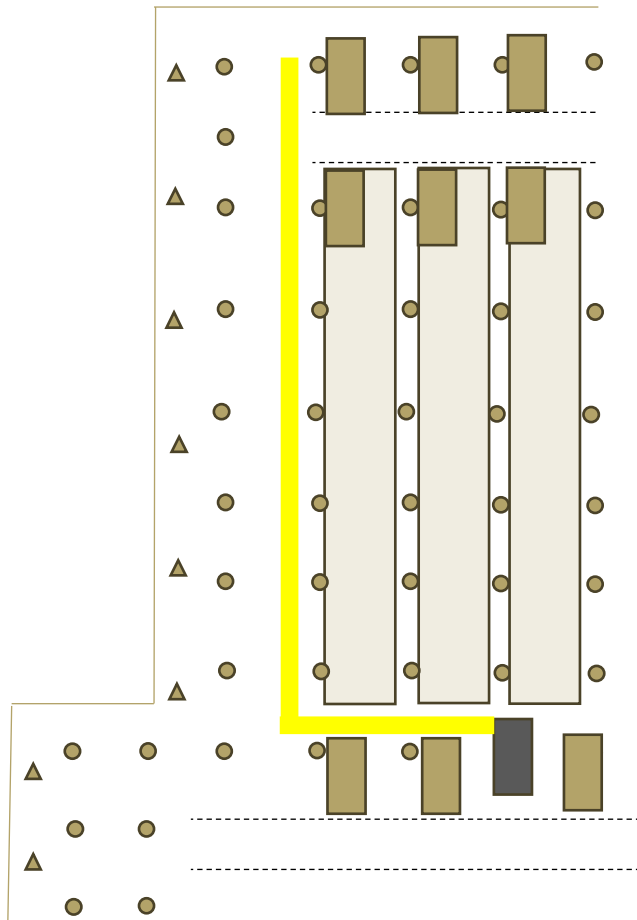
49,95m per roll strip light

Intensity ≥ 5000 light spectrum created by 24 LED's / meter.

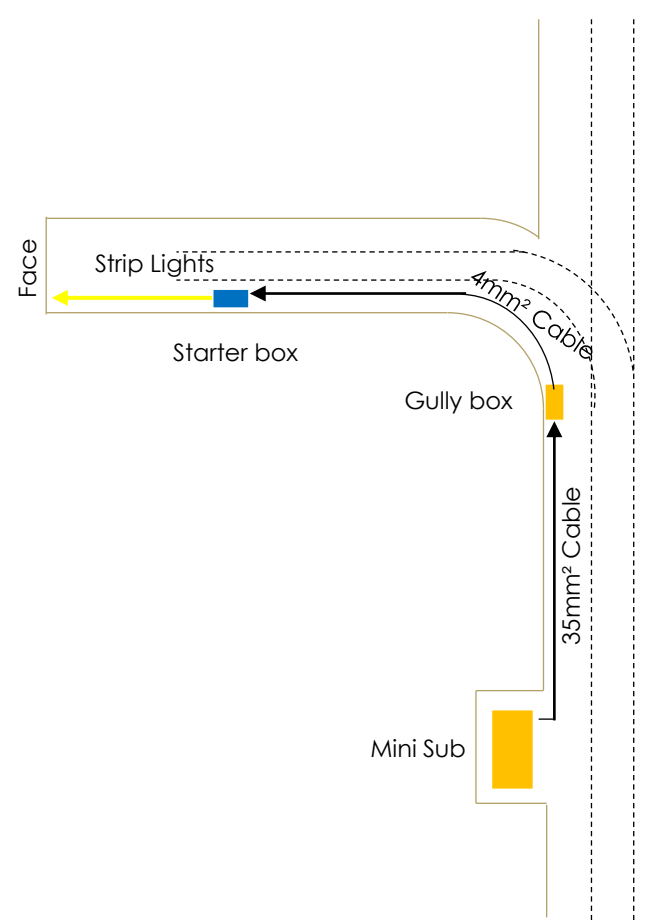


Product certification - An OEM certification from industry recognised institutions – SABS Approved, Manufactured According to ISO 9001:2008.

Stoping



Development



Roll out action plan

	Section 10				Section 11			
	Working place	Raise (Distance level to Level)	Dip / Strike / faces gullies	Total	Working place	Raise (Distance level to Level)	Dip / Strike / faces gullies	Total
	CL32-19	192m	73m	265m	CL42-11	136m	351m	487m
	CL38-29	34m	21m	55m	CL38-12	173m	153m	326m
	CL40-28	108m	78m	186m	CL42-13A	59m	55m	114m
	VC40-21	204m	391m	595m	VC38-20	204m	240m	444m
	VC38-22	234m	40m	274m	VC36-21	200m	48m	248m
					VC38-21	185m	328m	513m
					VC40-20	214m	349m	563m
					VC40-22A	175m	350m	525m
	Total	772m	603m	1375m	Total	1346m	1874m	3220m
Total Shaft	A total of 4595m of lights to be installed (92 rolls of lights)							

Roll out action plan

	Working place	Total	Number of Rolls	Costs		Working place	Total	Number of Rolls	Costs
Section 10	CL32-19	265m	5,3	R170 926	Section 11	CL42-11	487m	9,7	R314 115
	CL38-29	55m	1,1	R35 475		CL38-12	326m	6,5	R210 270
	CL40-28	186m	3,7	R119 970		CL42-13A	114m	2,2	R73 530
	VC40-21	595m	11,9	R383 775		VC38-20	444m	8,8	R286 380
	VC38-22	274m	5,4	R176 730		VC36-21	248m	4,9	R159 960
						VC38-21	513m	10,2	R330 885
						VC40-20	563m	11,2	R363 135
						VC40-22A	525m	10,5	R338 625
Total		1375m	27,4	R886 876	Total		3220m	64	R2 076 900
Total Shaft	A total of 4595m of lights to be installed (92 rolls of lights)								
Total Shaft	R 2 963 775								

- Initially a huge additional cost but with a great benefit of minimizing accidents and stoppages.

Roll out action plan status

Development			Stoping					
Section 03	Working place	Lights installed & used	Section 10	Working place	Lights installed & used	Section 11	Working place	Lights installed & used
	CL32-20 RSE	No		CL32-19	Yes		CL42-11	Yes
	VC36-21 FWDW	Yes		CL38-29	Yes		CL38-12	No crew yet
	VC36-22 XCN	Yes		CL40-28	Yes		CL42-13A	No crew yet
	VC38-22 RSE	Yes		VC40-21	Yes		VC38-20	Yes
	VC38-18 Tram Loop North	Yes		VC38-22	Yes		VC36-21	Yes
	VC38-18 Tram Loop	Yes					VC38-21	Yes
	VC40-19 XCS	Yes					VC40-20	Yes
	VC38-25 RSE	No					VC40-22A	Yes
	Total	6 / 8 working places = 75%		Total	6 / 6 working places = 100%		Total	5 / 5 working places = 100%
Total Shaft	11 Working Places / 11 Working Places = 100% (3 Working place not mining yet but planned) 6 Working Places / 8 Working Places = 75%							

Total Cost for the light roll out on Masakhane shaft: R2 963 775

- **Number of raise lines – 13**
- **Number of crews – 24**
- **Average cost per working place: $R2\ 963\ 775 / 13 = R227\ 982$**
- **Average cost per crew: $R2\ 963\ 775 / 24 = R123\ 490$**

Current Financial Implication – Initial cost

Project Number	Project Name	Operation	IM Name	Project Class	SIB INV	AFE Budget	Actual Prior Years	Actuals YTD	Commitments	Board Plan	Re-Plan	Jan Forecast	Feb Forecast	Mar Forecast	Apr Forecast
									CJ15	2024 Total	2024 Total	2024	2024	2024	2024
C.D23109	D1 In slope illumination	Driefontein	1 Shaft	Legal Require	SIB	-	-	-	-	-	3 339 821	556 634	1 906 828	-	876 358

Month	Cost	Rolls & Power supply	Comments
Jan '24	R556 634	17	
Feb '24	R1 906 828	60	
Total	R2,463 462	76	(Stopping – Installed from the closest face winch position & Dev – Cable pulled in from the closest mini sub towards the gully box & starter box)

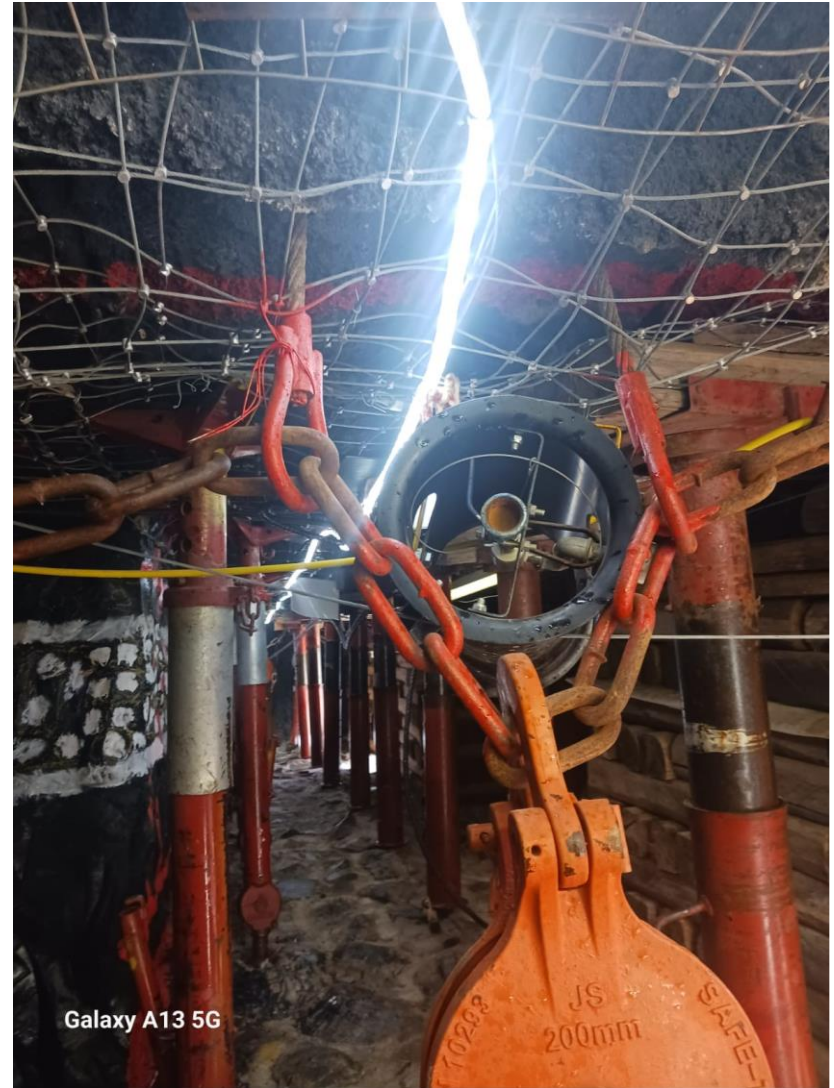
Month	Cost	Enclosures	Comments
April '24	R876 358	76	
Total	R876 358	76	

YTD Costs		R3 339 820	Lights, Power supply and Enclosures
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Training on Surface



Mock Up Photos



Stoping Photos

Photos taken on the 19-04-2024 and 22-04-2024



Photos taken on the 10-05-2024



Stoping Tway Photos







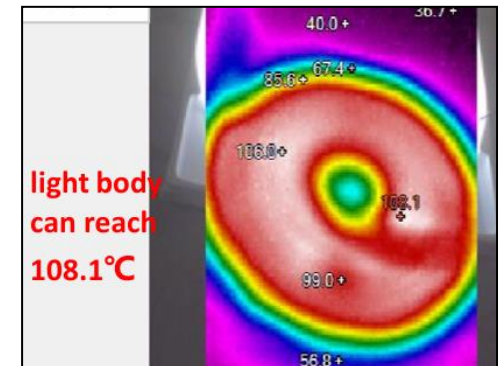
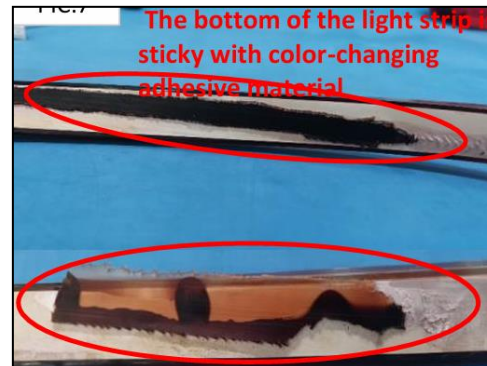
- Increase visibility of moving machinery.
- Increase identification of sub-standards.
- Improve identification of deterioration of ground conditions.
- Improve drilling and blasting accuracy.
- Improve housekeeping.
- Reduce fatigue.
- Improve concentration of the workers in the work place.
- Construction – safe, robust, durable, easy to install, easy to remove / replace, dust repellent and water resistant.

Disadvantages

- × Costs - R645 p/m
- × Time consuming as lights must be installed and removed as face advances.

Special precautions and Prohibitions

- When the LED strips are connected to the straining wire with cable ties, ensure the cable ties are not pulled too tight as this will damage the light string.
- When the strip lights are illuminated, please ensure it is not rolled up in a roll for longer than 10 minutes, otherwise the heat in the middle of the roll will damage the PVC.
- No person is allowed to tamper or damage installed string lights.
- 220V connections may only be done by a qualified Electrician / Service Man.



Questions ???