



Delivering engineering excellence, value and innovation

## UBS Australian Emerging Companies Conference Series April 2019



# Company Overview



# Corporate Structure





# Lycopodium Minerals

## MINERALS



- Mineral Processing
- Materials Handling
- Plant & Mine Infrastructure



# Marine & Modular

## MARINE AND MODULAR



- Diamond Processing
- Mineral Processing
- Fixed and Modular Process Plants
- Underwater Mining

# Process Industries

## PROCESS INDUSTRIES



- Specialty Chemicals
- Pharmaceuticals
- Research & Development
- Food and Beverage
- Manufacturing

# Infrastructure



- Civil
- Rail, Roads, Aviation
- Mine Infrastructure & Accommodation
- Industrial, Commercial & Public Works Buildings
- Asset Management

## INFRASTRUCTURE





# Orway Mineral Consultants



## ORWAY MINERAL CONSULTANTS

- Comminution Circuit Design, Modelling and Optimisation
- Hydrometallurgy
- Process Plant Consulting and Commissioning



# MONDIUM



- A Lycopodium / Monadelphous JV
- Large scale EPC
- Australia-focussed

## MONDIUM



# Lycopodium Operating Centres

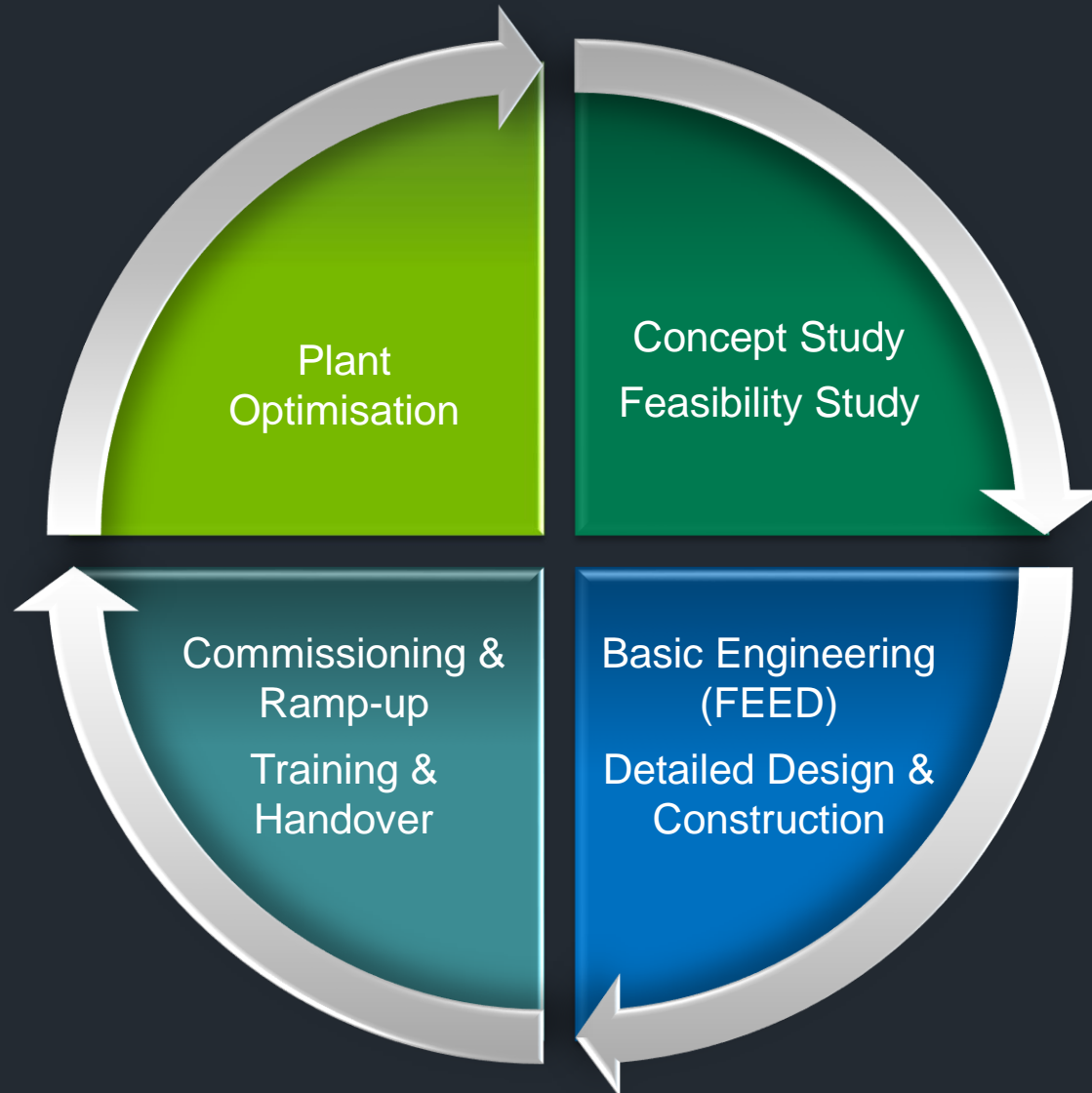




# MINERALS

# Services

Lycopodium's services extend through the entire life cycle of a project



# STUDIES



# Studies

- Unlock the chemistry and metallurgy

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

80

81

82

83

84

85

86

87

88

89-103

104

105

106

107

108

109

110

111

112

113

114

115

116

117

118

1

2

13

14

15

16

17

18

3

4

5

6

7

8

9

10

11

12

19

20

21

22

23

24

25

26

27

28

29

30

31

32

33

34

35

36

37

38

39

40

41

42

43

44

45

46

47

48

49

50

51

52

53

54

55

56

57-71

72

73

74

75

76

77

78

79

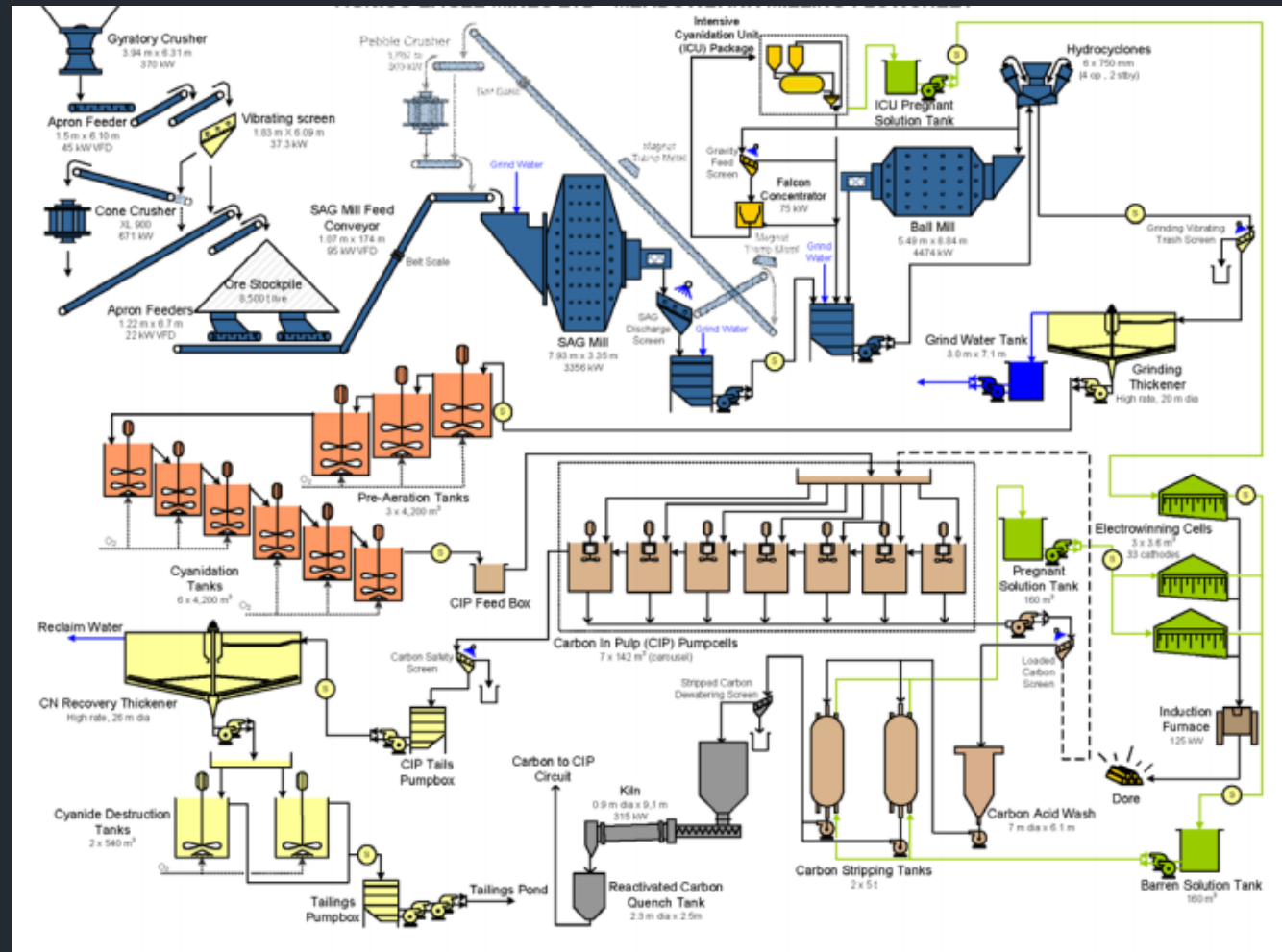
80

81

82

# Studies

- Unlock the chemistry and metallurgy
- Solve problems and move the project forward



# Studies

- Unlock the chemistry and metallurgy
- Solve problems and move the project forward
- Produce a document that can be relied upon

LOGO

CLIENT NAME

PROJECT NAME

REPORT TITLE

---

Picture Optional

Lycopodium

---

Job No-000-XREP-000

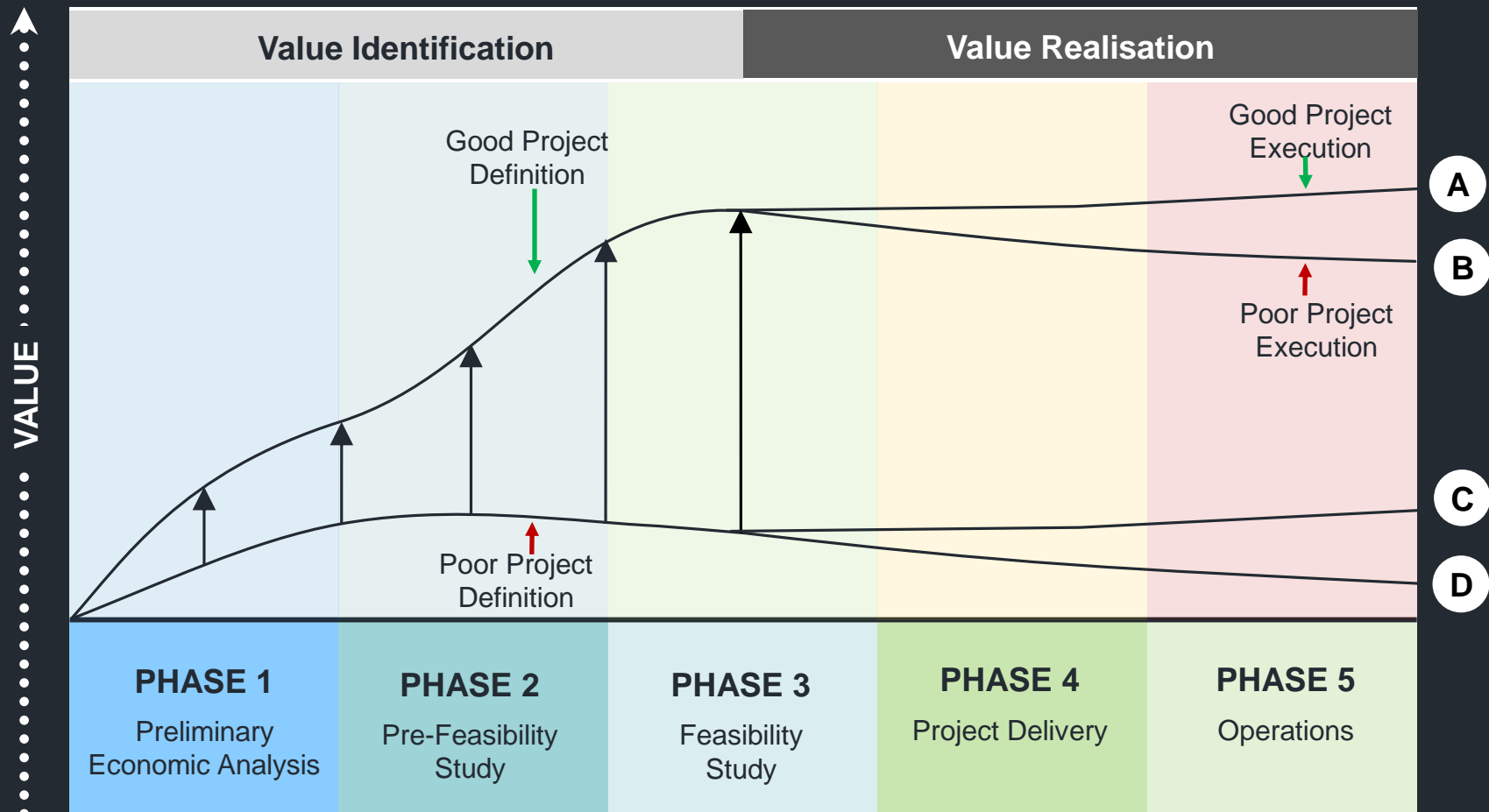
Month Year

File Location: 17.04  
Rev: A

A	ISSUED FOR REVIEW				
REV NO.	DATE	DESCRIPTION OF REVISION	BY	DESIGN APPROVED	PROJECT APPROVED



# Studies – Where the Value is Added



## LEGEND

- A** Good Project Definition and Execution
- B** Good Project Definition and Poor Project Execution
- C** Poor Project Definition and Good Project Execution
- D** Poor Project Definition and Poor Project Execution

# ENGINEERING

# Engineering

**Proven Designs**

**Bespoke**

**Next Generation**



# Engineering

- Bespoke solutions - next generation designs



Sampling for diamonds in the surf zone - Skeleton Coast, Namibia



# Engineering

- Bespoke solutions - next generation designs
- Digital engineering



Cobre secondary crushing



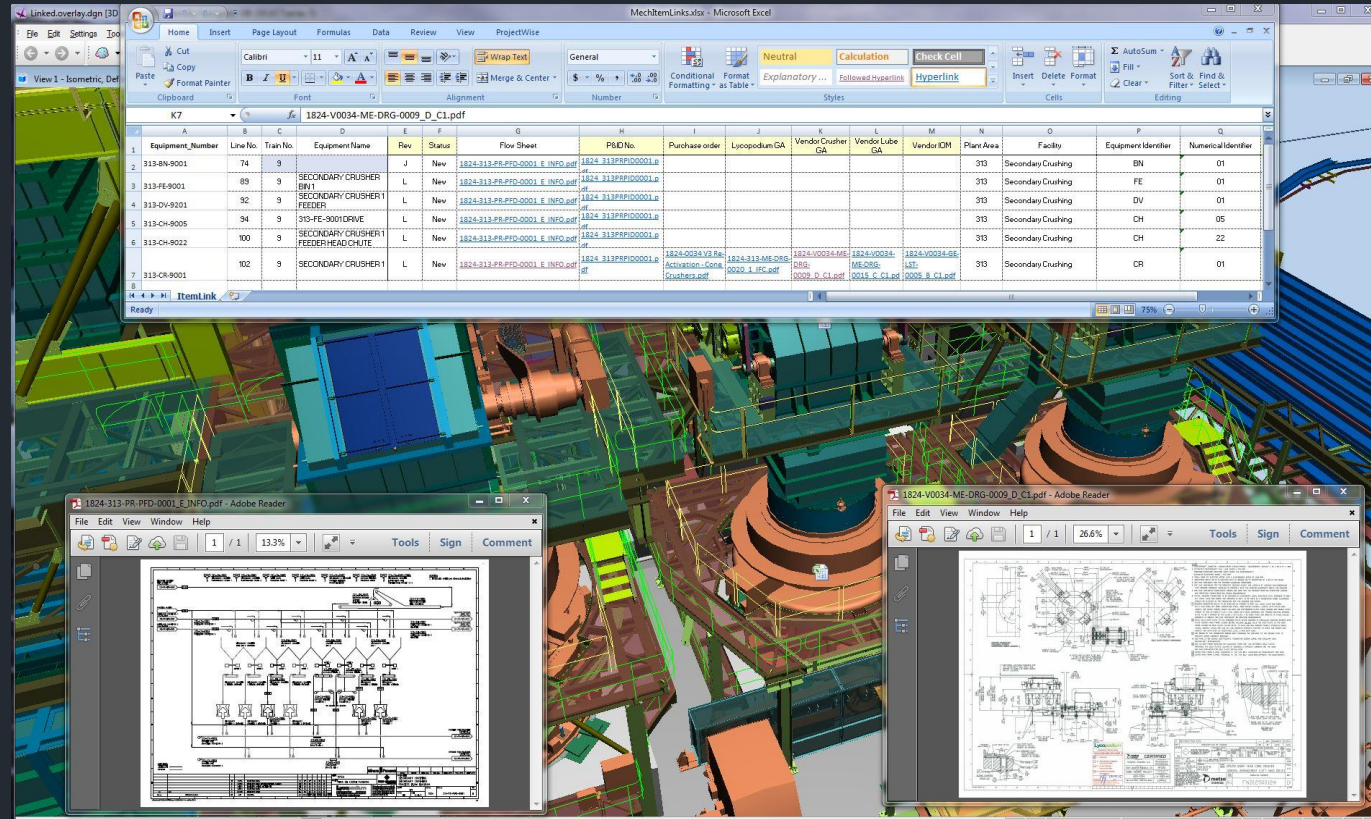
# Engineering

- Bespoke solutions - next generation designs
- Digital engineering
- Virtual reality



# Engineering

- Bespoke solutions - next generation designs
- Digital engineering
- Virtual reality
- BIM



# PROJECT DELIVERY

# Project Delivery

Safety

On Time

On Budget

On Spec



# Safety

Period	TRI	TRIFR*	LTI	LTIFR*	Hrs
2018 CY	3	1.10	0	0.00	2,720,945
2017 CY	12	2.36	1	0.20**	5,083,883
2016 CY	3	1.18	1	0.39**	2,546,977
2015 CY	2	1.47	1	0.74**	1,361,164
2014 CY	8	2.68	1	0.33**	2,981,819
2013 CY	31	2.72	2	0.18**	11,389,138

Statistics as at 31 December 2018

\* Frequency rates based on 1 million manhours

\*\* Indicates result is above target



# Project Delivery – Flexibility in Contracting Models



EPCM

Engineering and project delivery services under fixed price, reimbursable and incentivised models.



EPC

Delivery of Projects with Lycopodium as stand alone EPC Contractor, Lump Sum, D&C approach including supply and install all equipment & materials.



EP as part of Client Self Perform

Engineering, drafting and technical procurement services as part of Client Self Performed project delivery.



Integrated Approach

Integrated team involving Lycopodium and Client for full delivery of project with “best for project” approach on scope split.



PMC

Prime Management Contractor appointed by the Client to manage large projects.

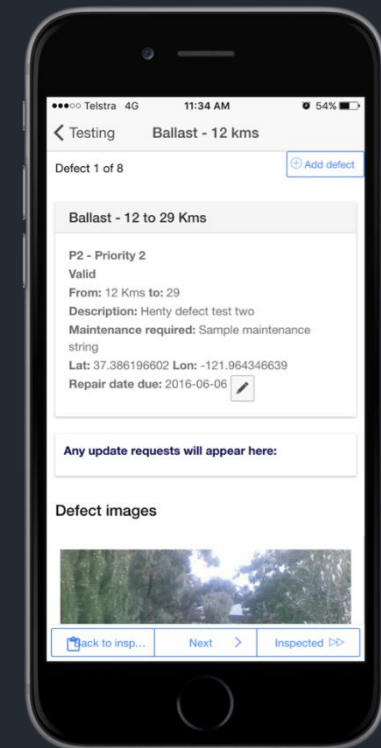
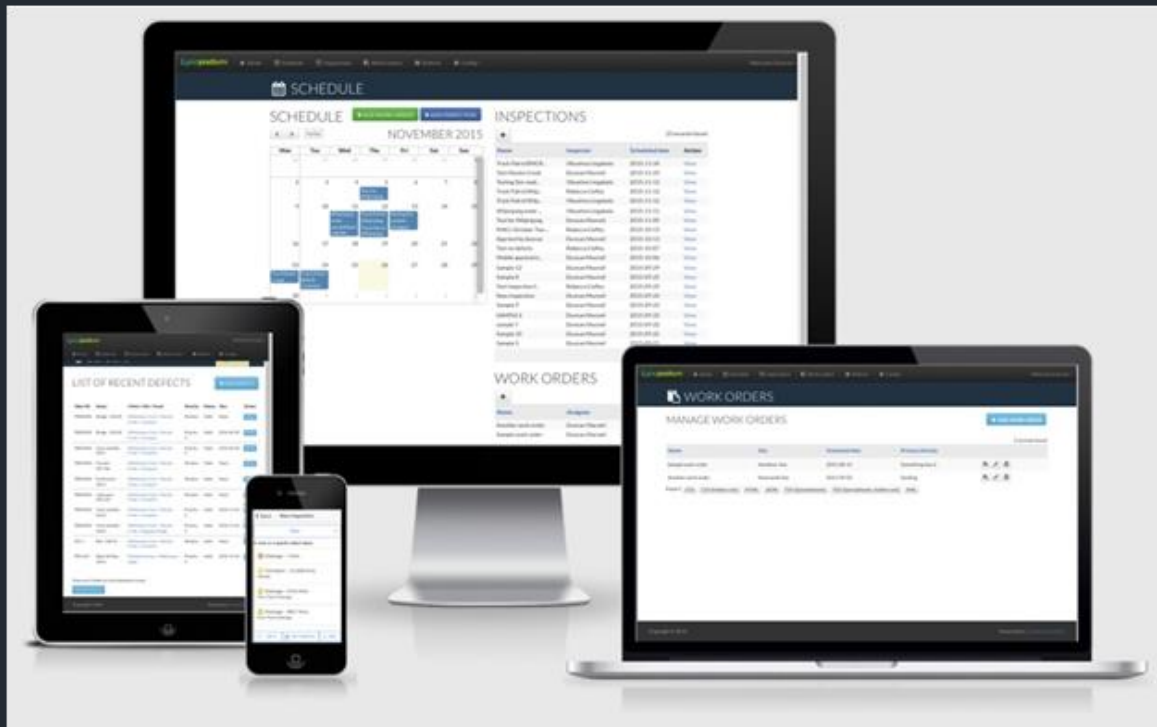
# OPTIMISATION

# Optimisation – OMC's Track Record

PROJECT	COUNTRY	BENEFIT		PROJECT	COUNTRY	BENEFIT	
		IDENTIFIED	REALISED			IDENTIFIED	REALISED
<b>Gold 1</b>	Ghana	17.6%		<b>Copper 1</b>	Zambia	9.6%	
<b>Gold 2</b>	Ghana		15.8%	<b>Gold 13</b>	Indonesia		12.5%
<b>Gold 3</b>	Mongolia		18.3%	<b>Gold 14</b>	Qld, Australia		10.5%
<b>Gold 4</b>	Tanzania	10.0%		<b>Copper 2</b>	Qld, Australia		10.0%
<b>Gold 5</b>	USA		11.0%	<b>Nickel 3</b>	Western Australia		5.3%
<b>Gold 5</b>	USA		22.0%	<b>Gold 15</b>	Russia	15.3%	
<b>Gold 6</b>	NSW, Australia		9.3%	<b>Gold 16</b>	Tanzania	9.6%	
<b>Gold 7</b>	Ghana		3.5%	<b>Copper 3</b>	NSW, Australia		12.2%
<b>Gold 8</b>	Indonesia		31.3%	<b>Gold 17</b>	Dominican Republic		16.2%
<b>Gold 9</b>	Australia		44.0%	<b>Gold 18</b>	Western Australia	11.5%	
<b>Gold 10</b>	Western Australia		19.0%	<b>Copper 4</b>	Zambia		22.9%
<b>Gold 11</b>	DRC		11.5%	<b>Gold 19</b>	Ghana	10.6%	
<b>Nickel 1</b>	Australia		15.0%	<b>Gold 20</b>	Indonesia		38.0%
<b>Nickel 2</b>	Finland		13.6%	<b>Gold 21</b>	Western Australia		38.7%
<b>Gold 12</b>	Western Australia	12.9%		<b>Gold 22</b>	Canada		10.0%

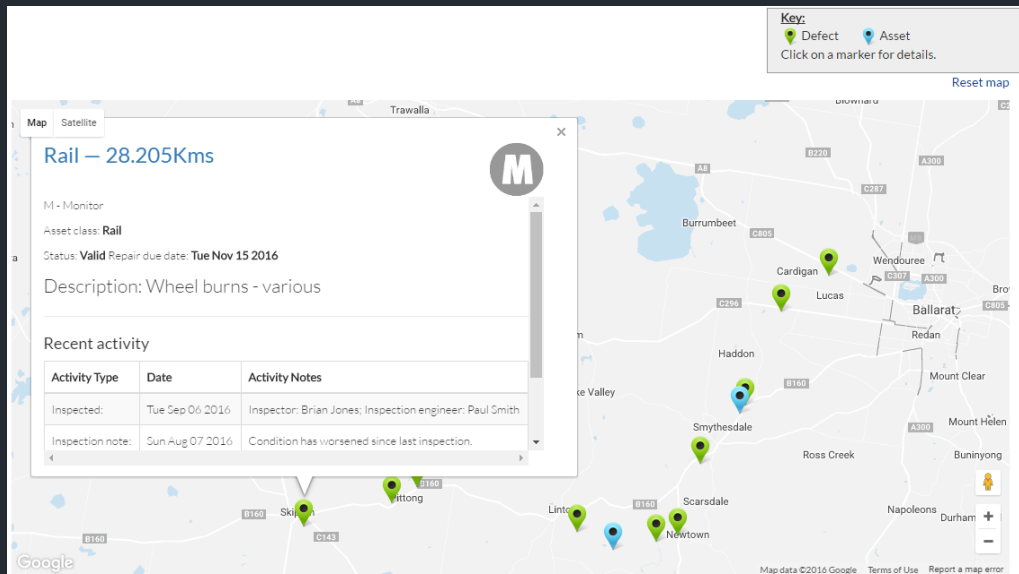
# Optimisation – Asset Management

- Asset management portal for scheduling of maintenance and management of defects through to closure for linear systems
- Field inspections using hand held devices via a LycoMMS app (available in the app store)
- Systems operates even in areas without mobile coverage



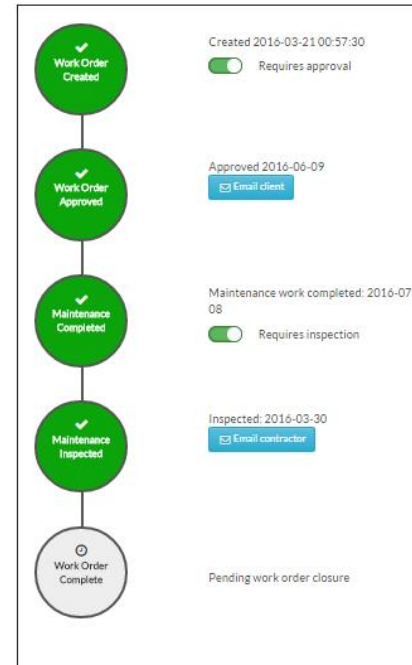
# Optimisation - Maintenance

- Map defects and assets pop up with details
- Fully automatic work order process with notes and images



## WORK ORDER: SAMPLE NSW WORK ORDER MARCH 2016

### ACTIONS



### FILES

There are no files attached to this work order.

+ ADD FILE

### PROGRESS NOTES

#### Approved

Sample  
2016-06-09 06:09:12

#### Progress note

Comment no image.  
2016-07-04 05:51:43

#### Progress note

Comment no image 2  
2016-07-04 12:53:08

#### Progress note

Sample with image -- reccoment rework.  
2016-07-04 12:57:58

#### Marked complete

None  
2016-07-08 04:17:43

#### Marked complete

My comments at contractor stage  
2016-07-08 04:18:27

### Work order images



Work order image Sample image



# Track Record of Achievement

**5,000 STUDIES AND 300  
PROJECTS IN 55+  
COUNTRIES.**

Projects under budget  
and within schedule

100% ramp-up to  
nameplate of all projects

Delivered in logistically  
challenging locations

Fit for purpose project  
systems and procedures

Strong repeat business  
with Clients





## REPRESENTATIVE PROJECTS





# Range of Commodities

- Gold



AKYEM PROJECT

*Newmont , Ghana*



# Range of Commodities

- Gold
- Copper



SENTINEL PROJECT

*FQML, Zambia*



# Range of Commodities

- Gold
- Copper
- Nickel



RAVENSTHORPE NICKEL PROJECT  
FQM, Australia



# Range of Commodities

- Gold
- Copper
- Nickel
- Base Metals



RAPU RAPU, Cu-Zn-Au  
Lafayette, Philippines

# Range of Commodities

- Gold
- Copper
- Nickel
- Base Metals
- Iron Ore



NAMMULDI  
Rio Tinto WA



# Range of Commodities

- Gold
- Copper
- Nickel
- Base Metals
- Iron Ore
- Battery Minerals



MT CATTLIN YIELD OPTIMISATION (Lithium)  
Galaxy Resources, Western Australia

# Range of Commodities

- Gold
- Copper
- Nickel
- Base Metals
- Iron Ore
- Battery Minerals
- Diamonds

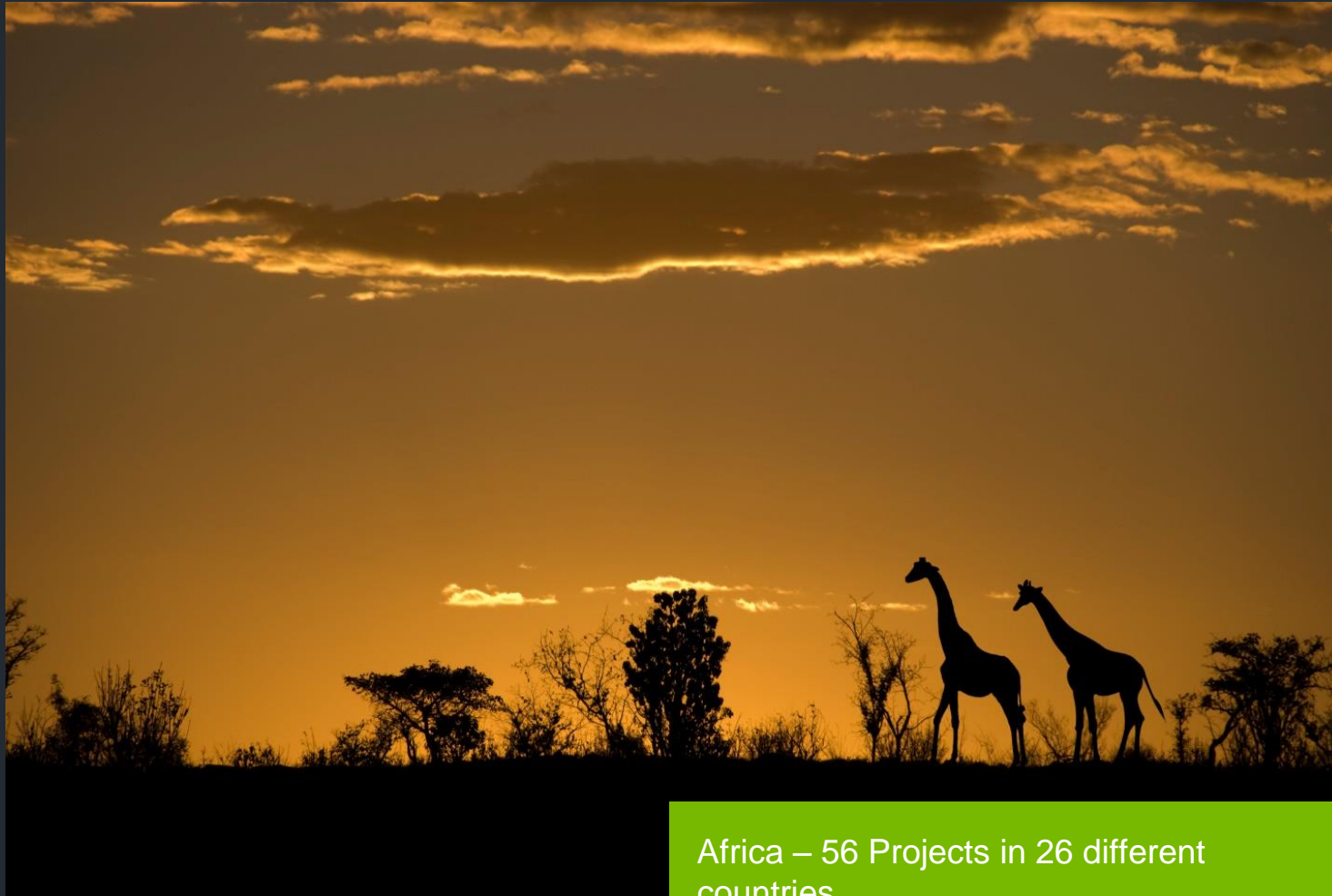


KUROWE DIAMONDS  
Lucara, Botswana



# Range of Countries

- Specialists in Africa



Africa – 56 Projects in 26 different countries



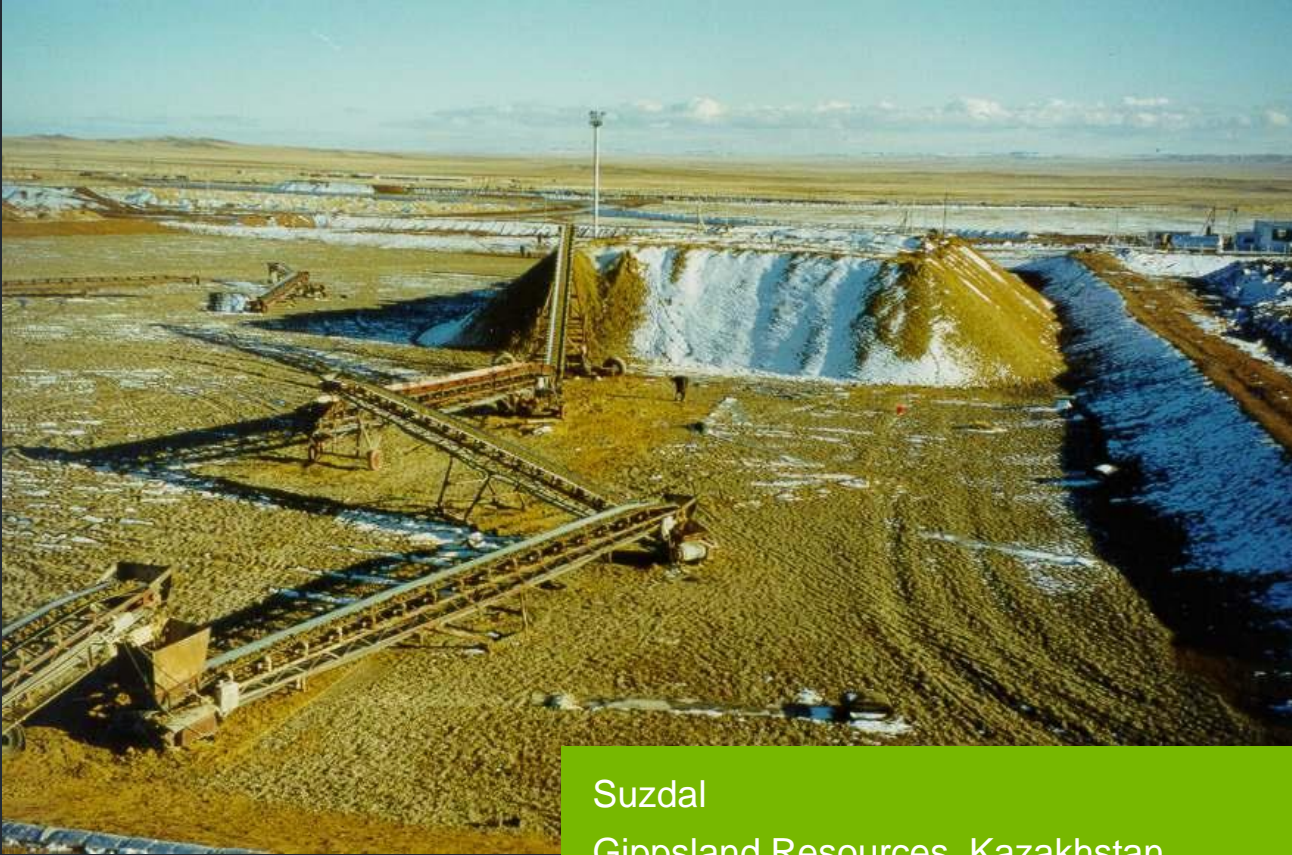
# Range of Countries

- Specialists in Africa
- All continents (except Antarctica)
- 



SANTA ROSA  
Red Eagle Mining, Colombia

# Range of Countries



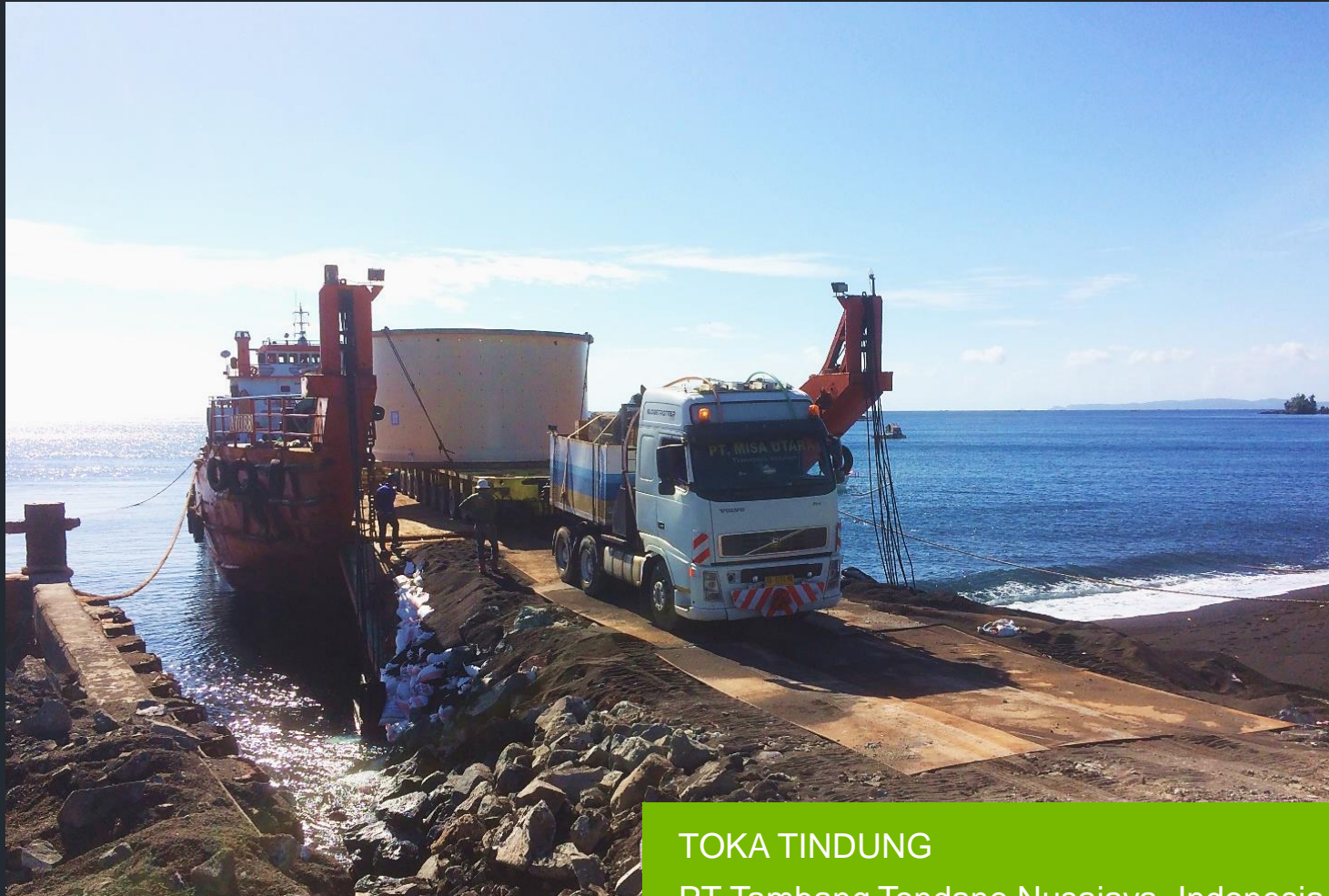
Suzdal  
Gippsland Resources, Kazakhstan

- Specialists in Africa
- All continents (except Antarctica)
- Language no barrier



# Range of Countries

- Specialists in Africa
- All continents (except Antarctica)
- Language no barrier
- Logistics no barrier



TOKA TINDUNG

PT Tambang Tondano Nusajaya, Indonesia

# Range of Geographies

- Tropical



LIHIR MOPU Project  
Newcrest, Papua New Guinea



# Range of Geographies

- Tropical
- Desert



TROPICANA

Independence, AngloGold Ashanti, WA



# Range of Geographies

- Tropical
- Desert
- Cold Weather



ST LAWRENCE FLUORSPAR  
St Lawrence, Newfoundland



# Range of Geographies

- Tropical
- Desert
- Cold Weather
- Marine



ARDC PROJECT  
De Beers, Namibia

# Range of Client Size

- Juniors

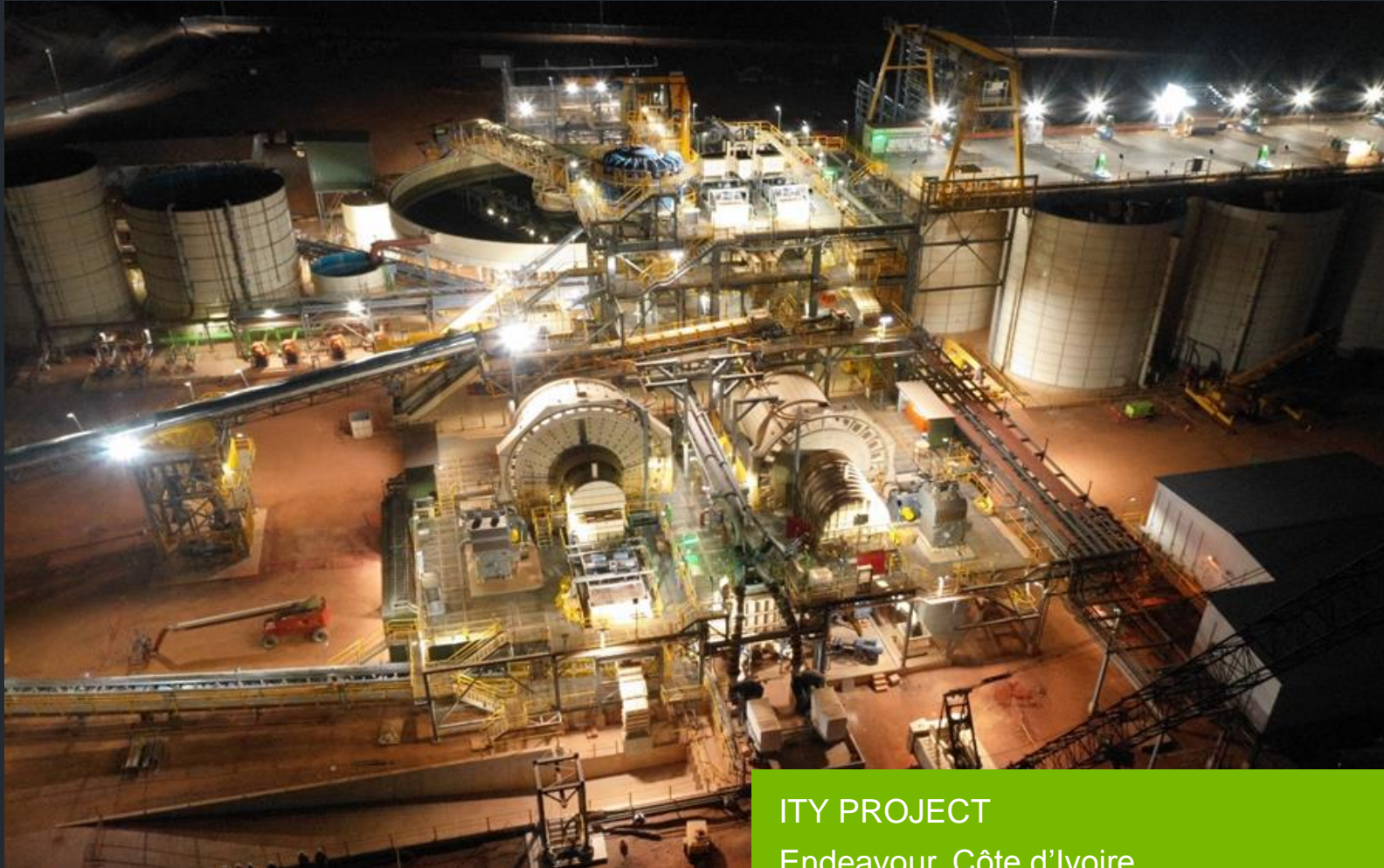


CHIRANO  
Red Back Mining, Ghana



# Range of Client Size

- Juniors
- Mid-tiers



ITY PROJECT

Endeavour, Côte d'Ivoire

# Range of Client Size

- Juniors
- Mid-tiers
- Majors



BUZWAGI PROJECT  
Barrick, Tanzania



# Range of Client Size



COBRÉ PANAMA PROJECT  
First Quantum Minerals Limited – Panama

- Juniors
- Mid-tiers
- Majors

# PROCESS INDUSTRIES



# Process Industries

- Chemical and energy
- Pharmaceutical and biotechnology
- Food and beverage
- Sustainability and environment
- Manufacturing and R&D



Hydrogen sulphide plant, Sumitomo, Philippines



Alkaloid extraction plant  
GlaxoSmithKline, Vic



Sauce manufacturing plant,  
Cerebos Foods, NSW



Stuart Energy Project

# INFRASTRUCTURE



# Infrastructure

- Rail
- Non-Process Infrastructure
- Roads
- Asset Management



# SOCIAL LICENCE



# Community Engagement



Supporting volunteer services and employee fund raising efforts.

Organise, coordinate and distribute educational supplies amongst schools in the vicinity of our Projects.

Providing on the job education and training.

Setting local recruitment targets for each project.

Monitoring against KPI's

Engaging with local and regional schools and universities to provide supplemental training of our local work force.

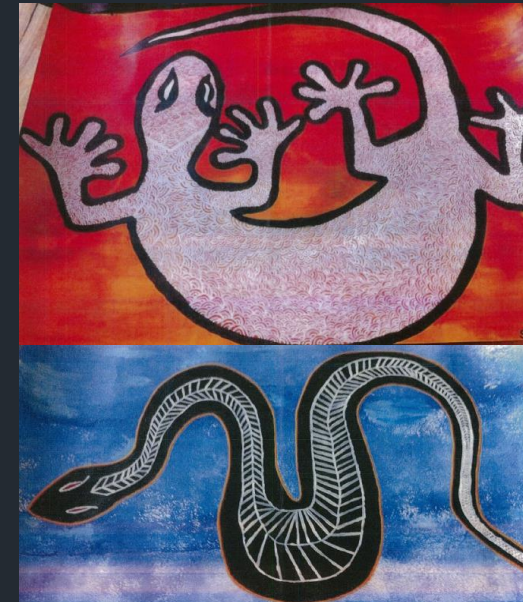
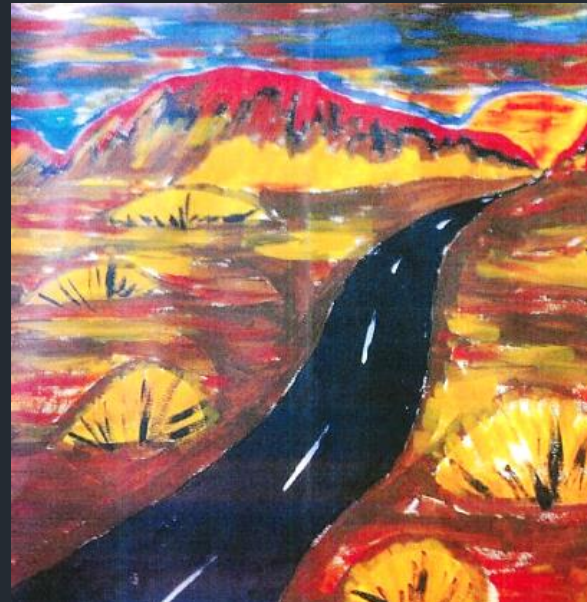
Work with our clients to enhance their community engagement plans.





# Cultural Engagement

- Supporting Clontarf
- Supporting Murlpirrmarra Connection
- Interaction with the community
- Local Engagement Strategy



# FINANCIAL



# Current Financial Summary

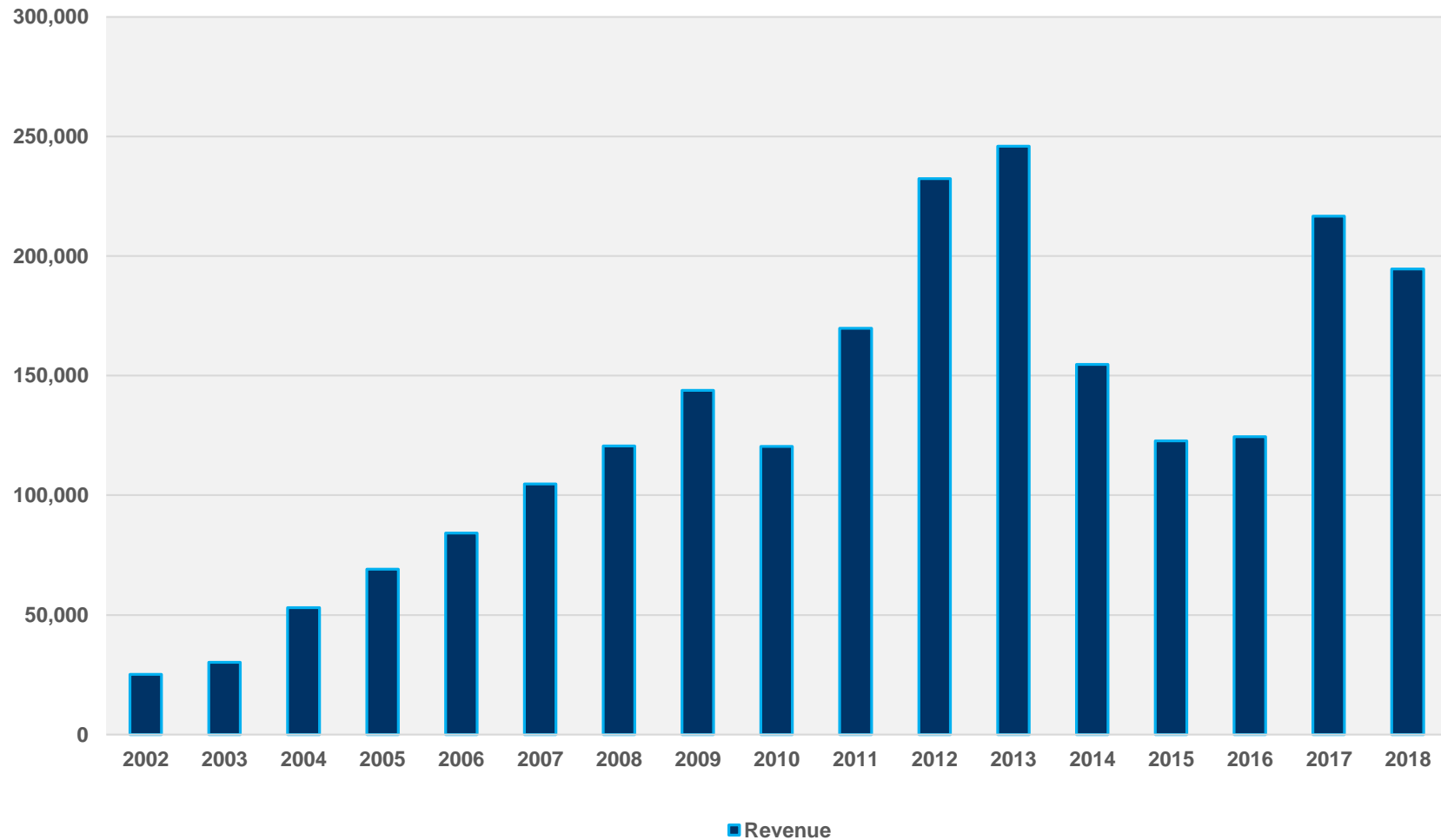
Half Year Results	31/12/2018 \$000's	31/12/2017 \$000's
Revenue from Operations	73,053	91,466
Net Profit After Tax (for Half Year)	8,523	7,301
Cash & equivalents	61,405	74,283





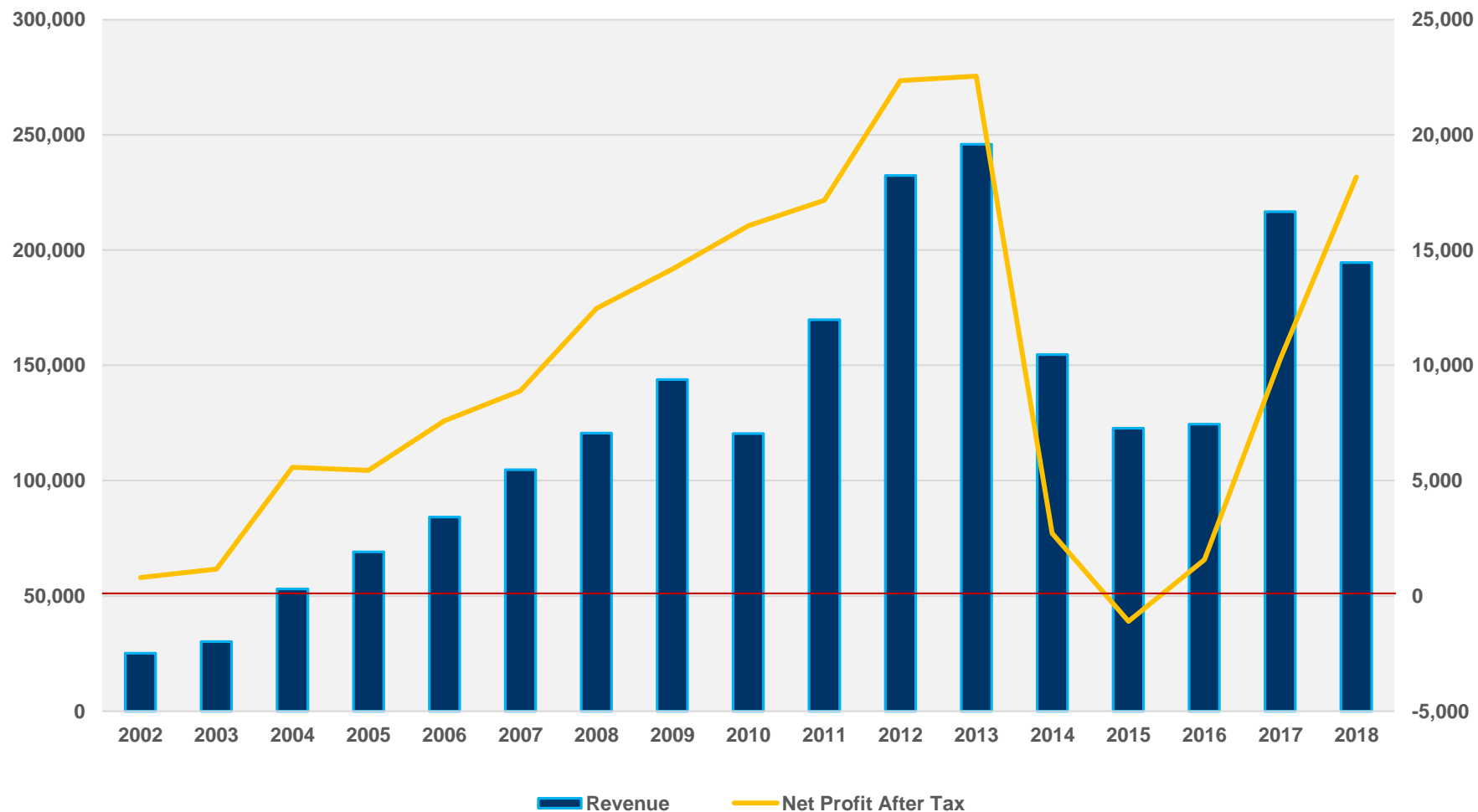
# Corporate Financial Performance

## REVENUE



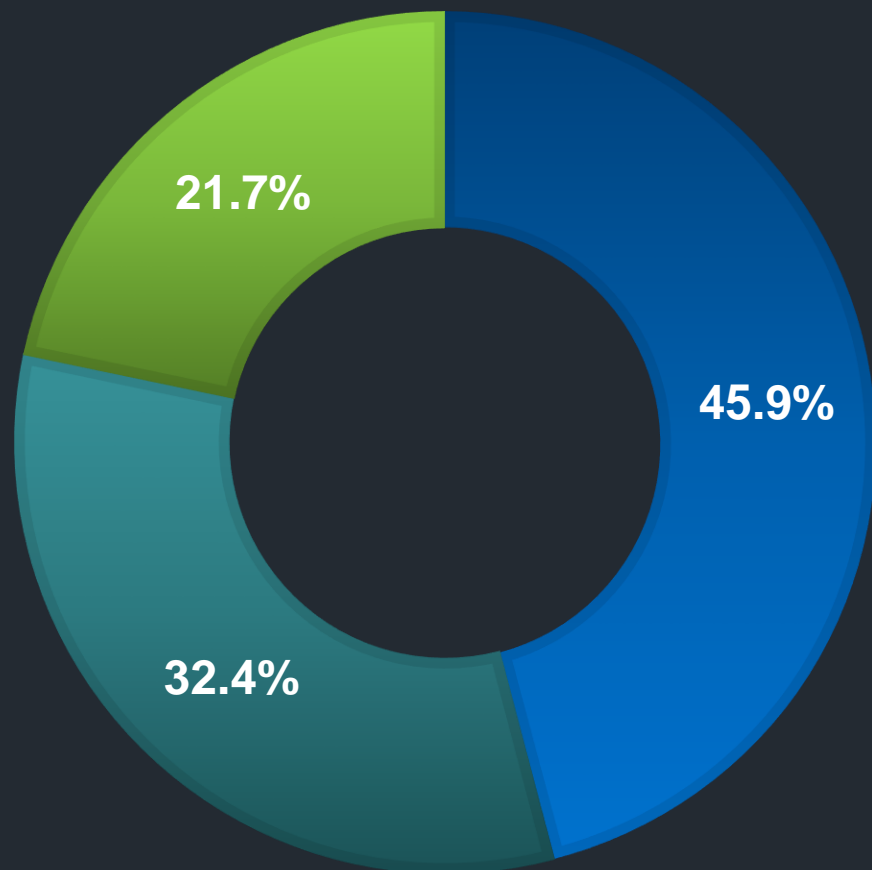
# Corporate Financial Performance

REVENUE AND NPAT



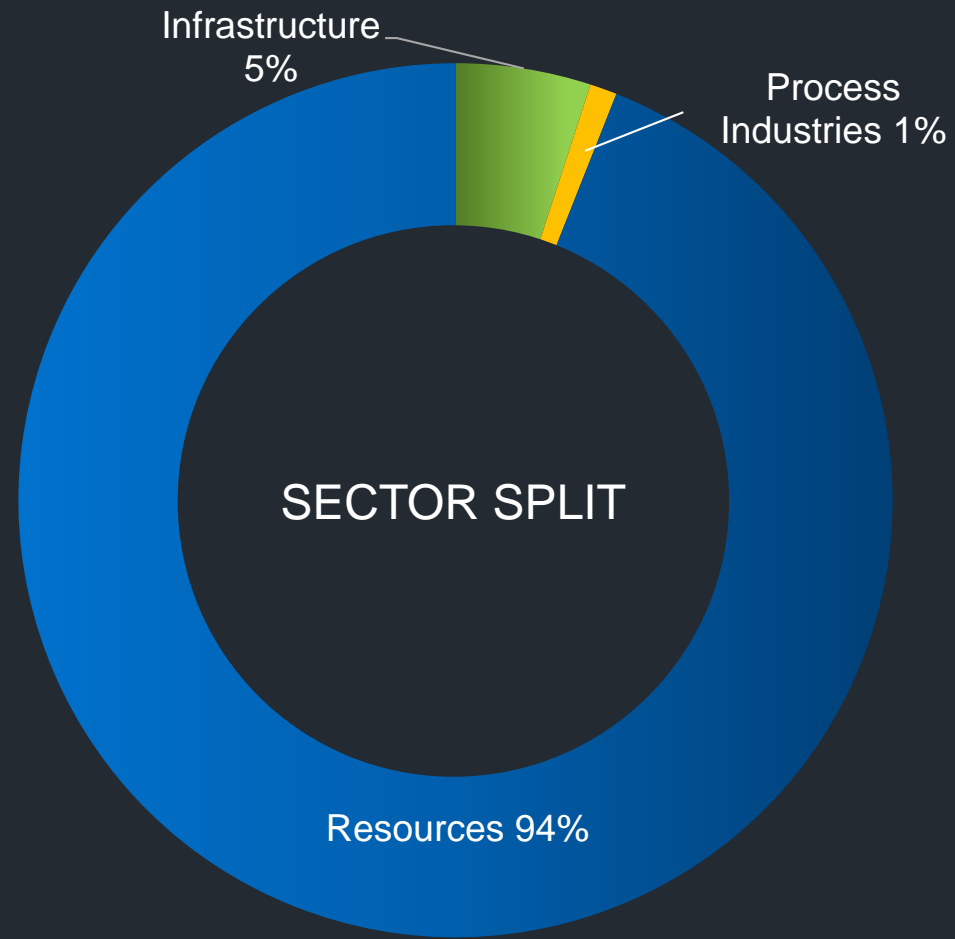
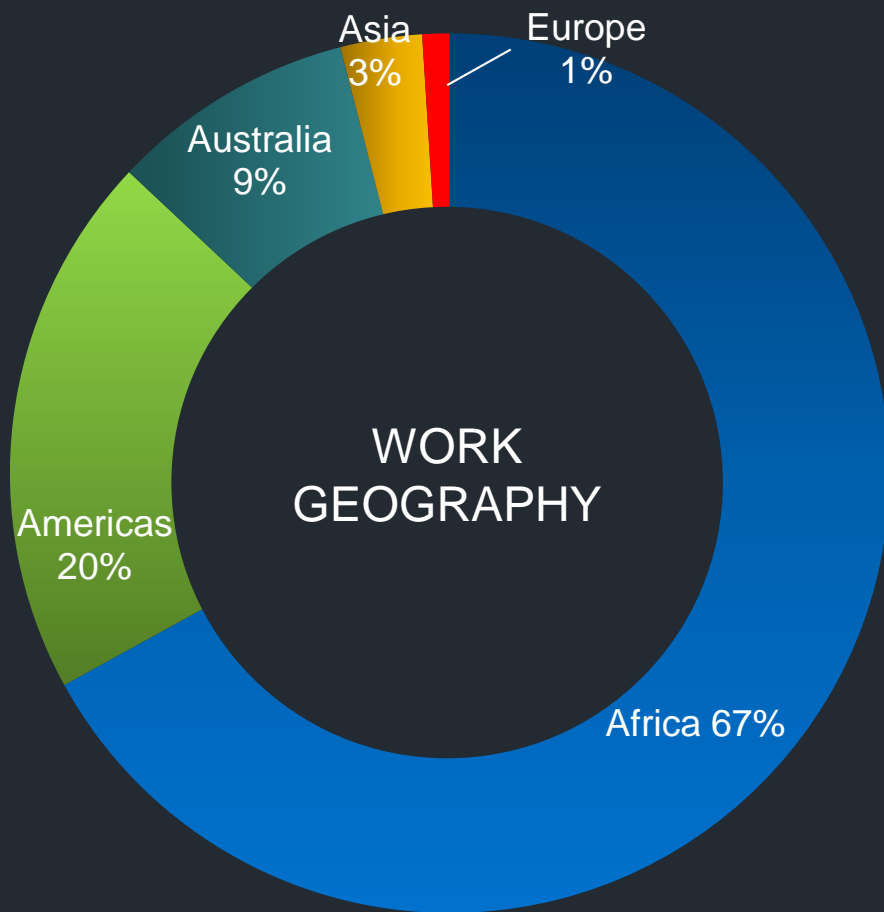
# Shareholding

Category *as at Aug 18	Shares	% of total issued shares
Total Issued Shares	39,732,373	100%
Directors, Management and related parties	18,234,145	45.9%
Institutional Investors	12,259,422	32.4%
Other	9,268,820	21.7%





# Geography and Sectors



# Lycopodium is:

- Delivering
  - natural resources projects
  - complex chemical and industrial projects
  - infrastructure projects
- Operating in Africa, SE Asia, North America and Australia.
- Arguably the world's preeminent engineering and project delivery company in gold
- Active in iron ore, copper, nickel, lithium, graphite, diamonds and other precious stones (among many other metals and minerals).
- Servicing a full spectrum of clients from juniors and mid-tiers to majors

**A quiet achiever exporting Australian skills and know-how to a global market**

THANK YOU