(Convenience translation into English from the original previously issued in Portuguese)

GRANBIO INVESTIMENTOS S.A.

Independent auditor's review report

Individual and consolidated interim financial information
As at September 30, 2022

GRANBIO INVESTIMENTOS S.A.

Individual and consolidated interim financial information
As at September 30, 2022

Contents

Management report

Independent auditor’s review report on the individual and consolidated interim financial information

Individual and consolidated interim statements of financial position

Individual and consolidated interim statements of profit or loss

Individual and consolidated interim statements of comprehensive income

Individual and consolidated interim statements of changes in equity

Individual and consolidated interim statements of cash flows

Individual and consolidated interim statements of value added – Supplementary information

Notes to the individual and consolidated interim financial information

Management report

Officers' Comments – Quarterly accounting information as at 09/30/2022

1. Economic and Financial Performance
Key figures:

(in R$ millions)	09/30/2022	09/30/2021	Var. 22/21
Net Revenue	19.6	27.0	27.3%
Loss	(89.3)	(136.8)	-

Net Revenue

In the nine-month period ended September 30, 2022, the Company's net revenue contracted by 27.3% mainly because of the R$ 7.4 million decrease in revenue from sales of cellulosic ethanol, sugarcane seedlings and resales of sugarcane straw.

Loss

The Company reported loss of R$ 89.3 million in the nine-month period ended September 30, 2022, representing a decrease of R$ 47.5 million compared with the same period last year. The main impacts on profit or loss in the nine-month period ended September 30, 2022 were due to: (i) change in other operating revenue (expenses), with the main impact due to the loss on the sale of property, plant and equipment during the nine-month period ended September 30, 2021, of R$ 20.5 million, compared with the gain of R$ 24.6 million in the nine-month period ended September 30, 2022, and (ii) R$ 2.2 million decrease in administrative and general expenses.

2. Indebtedness.

	Parent company		Consolidated	
	09/30/2022	12/31/2021	09/30/2022	12/31/2021
Cash and cash equivalents	1	-	112,223	274
Short-term investments	59,811	54,528	-	-
(-) Loans and borrowings	(133,647)	(147,439)	(569,625)	(551,017)
Net debt	(73,835)	(92,911)	(457,402)	(550,743)

The Company's net debt stood at R$ 457.4 million as at September 30, 2022, a decrease of 16.9% compared with the R$ 550.7 million as at December 31, 2021 due to the sale of commercial assets and sugarcane improvement, with the funds initially allocated to short-term investments.

São Paulo, November 09, 2022.

Management.

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INDEPENDENT AUDITOR’S REVIEW REPORT ON THE INDIVIDUAL AND CONSOLIDATED QUARTERLY INFORMATION

To the
Management and Shareholders of
GranBio Investimentos S.A.
São Paulo - SP

Introduction

We have reviewed the individual and consolidated interim financial information of GranBio Investimentos S.A. (“Company”), included in the Quarterly Information, for the quarter ended September 30, 2022, which comprise the statement of financial position as at September 30, 2022, and the respective statements of profit or loss and comprehensive income for the three- and nine-month periods then ended, and of changes in equity and cash flows for the nine-month period then ended, as well as the corresponding notes to the financial information.

The Company’s Management is responsible for the preparation of the individual interim financial information in accordance with NBC TG 21 (R4), and for the preparation of the consolidated interim financial information in accordance with NBC TG 21 (R4) and with International Accounting Standard (IAS) 34 - Interim Financial Reporting, issued by the International Accounting Standards Board (IASB), as well as for the presentation of this interim financial information in accordance with the standards issued by the Brazilian Securities and Exchange Commission (CVM) applicable to quarterly information. Our responsibility is to express a conclusion on this interim financial information based on our review.

Scope of the review

We conducted our review in accordance with Brazilian and international standards for reviewing interim financial information (NBC TR 2410 and ISRE 2410 - Review of Interim Financial Information Performed by the Independent Auditor of the Entity, respectively). A review of interim financial information consists principally of applying analytical and other review procedures and making enquiries of and having discussions with persons responsible for financial and accounting matters. An interim review is substantially less in scope than an audit conducted in accordance with auditing standards and does not provide assurance that we would become aware of any or all significant matters that might be identified in an audit. Accordingly, we do not express such an audit opinion.

Conclusion on the individual interim financial information

Based on our review, we are not aware of any fact that leads us to believe that the individual interim financial information included in the accompanying quarterly information has not been prepared, in all material respects, in accordance with NBC TG 21 (R4), applicable to the preparation of quarterly information, and presented in accordance with the standards issued by CVM.

Conclusion on the consolidated interim financial information

Based on our review, we are not aware of any fact that leads us to believe that the consolidated interim financial information included in the quarterly information referred to above has not been prepared, in all material respects, in accordance with NBC TG 21 (R4) and IAS 34, applicable to Quarterly Information, and presented in accordance with the standards issued by CVM.

BDO RCS Auditores Independentes is a Brazilian limited liability company, member of BDO International Limited, a UK company limited by guarantee, and forms part of the international BDO network of independent member firms. BDO is the brand name for the BDO network and for each BDO member firm.

Emphasis

Investment realization stage

We draw attention to Notes 1 and 15 to the individual and consolidated interim financial information, which describe that the Company and its controlled companies have reported recurring losses on their operations and accumulated losses in equity in the amount of R$ 828,526 thousand (R$ 739,472 thousand as at December 31, 2021) in the individual and consolidated financial information, as well as current liabilities in excess of current assets for the period ended September 30, 2022, in the amount of R$ 681,290 thousand in the consolidated financial information (R$ 711,588 thousand as at December 31, 2021). This situation is mainly due to the fact that the ethanol plant of the controlled company BioFlex Agroindustrial S.A. is currently in the stage of investments to reach its business capacity of continual operations and, consequently, the recoverability of the investments made in fixed assets and technology (intangible assets). Our conclusion is not qualified in respect of this matter.

Related-party transactions

We draw attention to Notes 7 and 10 to the interim financial information which describe that the Company and its controlled companies maintain balances and transactions in significant amounts with related parties, according to the conditions there described. Accordingly, the interim financial information should be analyzed in this context. Our conclusion is not qualified in respect of this matter.

Other matters

Statements of value added

The interim financial information referred to above includes the individual and consolidated statements of value added for the nine-month period ended September 30, 2022, prepared under the responsibility of the Company's Management and presented as supplementary information for the purposes of IAS 34. These statements were submitted to review procedures executed with the review of the quarterly information, with the purpose of concluding whether they are reconciled with the interim financial information and accounting records, as applicable, and if its form and contents meet the criteria defined in NBC TG 09 – Statement of Value Added. Based on our review, we are not aware of any fact that would lead us to believe that these statements of value added were not prepared, in all material respects, in accordance with the criteria established in this standard and consistently with the individual and consolidated interim financial information taken as a whole.

The accompanying financial information has been translated into English for the convenience of readers outside Brazil.

São Paulo, November 09, 2022.

BDO RCS Auditores Independentes SS
CRC 2 SP 013846/F

Ricardo Vieira da Rocha
Accountant CRC 1 BA 026357/O-2 – S - SP

GranBio Investimentos S.A.

Statements of financial position as of September 30, 2022 and December 31, 2021

(In thousands of Brazilian Reais)

		Parent company		Consolidated	
Assets		**9/30/2022**	**12/31/2021**	**9/30/2022**	**12/31/2021**
Current assets					
Cash and cash equivalents	6	1	-	112,223	274
Short-term investments	7	-	54,528	-	-
Accounts receivable	8	-	-	11,585	1,294
Advances to suppliers		14	80	358	1,972
Inventory	9	-	-	8,617	8,723
Prepaid expense		-	137	1,410	1,536
Total current assets		15	54,745	134,193	13,799
Noncurrent assets					
Short-term investments	7	59,811	-	-	-
Recoverable taxes		73	261	5,865	5,591
Judicial deposits		166	177	759	675
Other notes receivable		-	-	168	174
Loans with related parties	10	12,395	-	-	-
Other accounts receivable from related parties	10	-	-	103,561	83,540
Investments	11	908,134	991,155	-	-
Property, plant and equipment	12	2,515	3,150	752,478	892,967
Intangible assets	13	-	-	605,448	653,430
Total noncurrent assets		983,094	994,743	1,468,279	1,636,377
Total assets		**983,109**	**1,049,488**	**1,602,472**	**1,650,176**

		Parent company		Consolidated	
Liabilities		**9/30/2022**	**12/31/2021**	**9/30/2022**	**12/31/2021**
Current liabilities					
Loans and financing	15	8,619	18,547	378,287	284,719
Leases		71	66	71	66
Trade payables	16	1,052	4,544	51,270	63,720
Loans with related parties	10	375,270	316,354	341,030	281,011
Other accounts payable to related parties	10	-	-	-	56,714
Tax and labor obligations		184	71	20,102	12,978
Customer advances		-	-	-	10
Other accounts payable	17	117	100	17,926	19,472
Deferred revenue	18	-	-	6,797	6,697
Total current liabilities		385,313	339,682	815,483	725,387
Noncurrent liabilities					
Loans and financing	15	125,027	128,892	191,338	266,298
Leases		1,897	1,952	1,897	1,952
Other accounts payable to related parties	10	-	-	61,680	-
Tax and labor obligations		-	-	2,760	5,118
Deferred revenue	18	-	-	1,685	8,318
Deferred income tax and social contribution	26	-	-	51,510	57,075
Customer advances		-	-	-	2,725
Other accounts payable	17	-	-	1,977	811
Total noncurrent liabilities		126,924	130,844	312,847	342,297
Equity					
Share capital	20	977,662	977,662	977,662	977,662
Capital reserves	20	108,175	108,175	108,175	108,175
Asset and liability valuation adjustments	20	213,561	232,597	213,561	232,597
Accumulated losses		(828,526)	(739,472)	(828,526)	(739,472)
Equity attributable to controlling shareholders		470,872	578,962	470,872	578,962
Noncontrolling interest		-	-	3,270	3,530
Total equity		470,872	578,962	474,142	582,492
Total liabilities and equity		**983,109**	**1,049,488**	**1,602,472**	**1,650,176**

The accompanying notes are an integral part of the individual and consolidated quarterly financial information.

GranBio Investimentos S.A.

Statements of profit or loss

Three- and nine-month periods ended September 30, 2022 and 2021

(In thousands of Brazilian Reais)

		Parent company				Consolidated			
	Note	**07/01/2022 to 09/30/2022**	**01/01/2022 to 09/30/2022**	**07/01/2021 to 09/30/2021**	**01/01/2021 to 09/30/2021**	**07/01/2022 to 09/30/2022**	**01/01/2022 to 09/30/2022**	**07/01/2021 to 09/30/2021**	**01/01/2021 to 09/30/2021**
Revenue from goods sold and services rendered	21	-	-	-	-	5,678	19,635	6,783	26,993
Cost of goods sold and services rendered	22	-	-	-	-	(9,200)	(27,765)	(11,459)	(50,015)
Gross profit/loss		-	-	-	-	(3,522)	(8,130)	(4,676)	(23,022)
Operating income and (expenses)									
Administrative and general expenses	23	(4,781)	(8,985)	(2,219)	(6,485)	(17,827)	(44,553)	(12,493)	(46,728)
Other operating income and (expenses)	24	434	1,528	-	(93)	21,003	12,279	394	(16,177)
Share of profit (loss) of equity-accounted investees	11	(8,321)	(76,966)	(28,974)	(118,327)	-		-	-
Operating income before financial income (loss), net		(12,668)	(84,423)	(31,193)	(124,905)	(346)	(40,404)	(16,775)	(85,927)
Financial revenue		2,237	7,544	776	1,783	2,498	6,834	(1,557)	2,091
Financial expenses		(3,766)	(12,175)	(6,918)	(13,041)	(17,518)	(59,340)	(20,427)	(56,682)
Net financial income/loss	25	(1,529)	(4,631)	(6,142)	(11,258)	(15,020)	(52,506)	(21,984)	(54,591)
Profit/loss before income tax and social contributions		(14,197)	(89,054)	(37,335)	(136,163)	(15,366)	(92,910)	(38,759)	(140,518)
Deferred income tax and social contribution	26	-	-	-	-	1,226	3,596	1,221	3,735
Profit or loss for the period		**(14,197)**	**(89,054)**	**(37,335)**	**(136,163)**	**(14,140)**	**(89,314)**	**(37,538)**	**(136,783)**
Profit attributable to:									
Controlling shareholders		(14,197)	(89,054)	(37,335)	(136,163)	(14,197)	(89,054)	(37,335)	(136,163)
Noncontrolling shareholders		-	-	-	-	57	(260)	(203)	(620)
Profit or loss for the period		**(14,197)**	**(89,054)**	**(37,335)**	**(136,163)**	**(14,140)**	**(89,314)**	**(37,538)**	**(136,783)**
Number of shares	29	108,133	108,133	108,133	108,133	108,133	108,133	108,133	108,133
Earnings per share	29	(0.1313)	(0.8236)	(0.3453)	(1.2592)	(0.1313)	(0.8236)	(0.3453)	(1.2592)

The accompanying notes are an integral part of the individual and consolidated quarterly financial information.

GranBio Investimentos S.A.

Statements of other comprehensive income

Three- and nine-month periods ended September 30, 2022 and 2021

(In thousands of Brazilian Reais)

	Parent company				Consolidated			
	07/01/2022 to 09/30/2022	**01/01/2022 to 09/30/2022**	**07/01/2021 to 09/30/2021**	**01/01/2021 to 09/30/2021**	**07/01/2022 to 09/30/2022**	**01/01/2022 to 09/30/2022**	**07/01/2021 to 09/30/2021**	**01/01/2021 to 09/30/2021**
Profit or loss for the period	(14,197)	(89,054)	(37,335)	(136,163)	(14,140)	(89,314)	(37,538)	(136,783)
Other comprehensive income to be reclassified to profit or loss in subsequent periods:								
Cumulative translation adjustments (notes 11.c and 20.b)	17,692	(19,036)	44,511	25,685	17,692	(19,036)	44,511	25,685
Comprehensive income for the period	**3,495**	**(108,090)**	**7,176**	**(110,478)**	**3,552**	**(108,350)**	**6,973**	**(111,098)**
Profit attributable to:								
Controlling shareholders					3,495	(108,090)	7,176	(110,478)
Noncontrolling shareholders					57	(260)	(203)	(620)
Total comprehensive income					**3,552**	**(108,350)**	**6,973**	**(111,098)**

The accompanying notes are an integral part of the individual and consolidated quarterly financial information.

GranBio Investimentos S.A.

Statements of changes in equity

Nine-month periods ended September 30, 2022 and 2021

(In thousands of Brazilian Reais)

		Attributable to Controlling shareholders							
	Note	Share capital	Capital to be paid in	Capital reserve	Asset and liability valuation adjustments	Accumulated losses	Equity attributable to shareholders	Noncontrolling interest	Total equity
Balances at January 01, 2021		**977,662**	**-**	**108,175**	**193,011**	**(569,127)**	**709,721**	**4,377**	**714,098**
Cumulative translation adjustments		-	-	-	25,685		25,685		25,685
Profit or loss for the period		-	-	-		(136,163)	(136,163)	(620)	(136,783)
Balances at September 30, 2021		**977,662**	**-**	**108,175**	**218,696**	**(705,290)**	**599,243**	**3,757**	**603,000**
Balances at January 01, 2022		**977,662**	**-**	**108,175**	**232,597**	**(739,472)**	**578,962**	**3,530**	**582,492**
Cumulative translation adjustments	20.b	-	-	-	(19,036)	-	(19,036)	-	(19,036)
Profit or loss for the period		-	-	-	-	(89,054)	(89,054)	(260)	(89,314)
Balances at September 30, 2022		**977,662**	**-**	**108,175**	**213,561**	**(828,526)**	**470,872**	**3,270**	**474,142**

The accompanying notes are an integral part of the individual and consolidated quarterly financial information.

GranBio Investimentos S.A.

Statements of cash flows

Nine-month periods ended September 30, 2022 and 2021

(In thousands of Brazilian Reais)

	Parent company		Consolidated	
	09/30/2022	**09/30/2021**	**09/30/2022**	**12/31/2021**
Cash flows from operating activities				
Profit or loss for the period	(89,054)	(136,163)	(89,314)	(136,783)
Adjustments for:				
Depreciation (Note 12)	139	132	23,403	26,582
Amortization (Note 13)	-	-	13,483	14,240
Returns on short-term investments (Note 25)	(5,283)	(1,760)	-	-
Loss on the disposal of property, plant and equipment (Note 24)	-	-	91,634	20,482
Net income on the disposal of intangible assets (Note 24)	-	-	(115,047)	-
Investment write-off (Note 11)	-	41	-	-
Profit/loss on recognition of deferred revenue (Note 24)	-	-	-	(2,052)
Share of profit (loss) of equity-accounted investees (Note 11)	76,965	118,327	-	-
Provision for lease interest	(50)	(42)	(50)	(42)
Provision for loans and financing interest (Note 15.b)	11,599	10,766	51,908	45,499
Deferred income tax and social contribution	-	-	(3,596)	(3,735)
Provision for impairment losses (Note 24)	-	-	15,145	-
Reversal of inventory realization loss (Note 9)	-	-	(30)	(18,518)
Result for adjustments in the period	(5,684)	(8,699)	(12,464)	(54,327)
Change in assets and liabilities:				
Accounts receivable	-	-	156	1,891
Advance to suppliers	66	378	1,614	4,210
Inventories	-	-	136	20,169
Recoverable taxes	188	(18)	(274)	(687)
Prepaid expenses	137	328	85	(301)
Other notes receivable	-	-	1	82
Judicial deposits	11	28	(84)	1,056
Other accounts receivable from related parties	-	-	(13,166)	-
Trade payables	(2,989)	(379)	(12,940)	5,374
Tax and labor obligations	114	(607)	4,617	(522)
Customer advances	-	-	572	151
Deferred revenue	-	-	(5,762)	(6,879)
Other accounts payable	17	55	(267)	3,456
Net cash provided by (used in) operating activities	(2,456)	(215)	(25,312)	28,000
Interest on loans and financing (Note 15 b)	(11,191)	(8,872)	(19,099)	(29,499)
Net cash (used) in operating activities	(19,331)	(17,786)	(56,875)	(55,826)
Cash flows from investing activities				
Redemption of short-term investments	-	7,308	-	7,231
Increase in investments (Note 11)	(12,981)	(32,883)	-	-
Acquisition of PPE (Note 12)	(7)	(295)	(120)	(898)
Amount received on sale of property, plant and equipment	-	-	2,801	-
Acquisition of intangible assets (Note 13)	-	-	(577)	(1,492)
Amount received on sale of intangible assets	-	-	117,310	-
Net cash produced by (used in) investing activities	(12,988)	(25,870)	119,414	4,841
Cash flows from financing activities				
Acquisition of equity interest	-	-	-	(18,040)
Loans taken from related parties	46,521	51,787	63,594	110,048
Loans and financing secured - principal (Note 15 b)	-	3,251	-	166,501
Payment of loans and financing - principal (Note 15 b)	(14,201)	(11,380)	(14,201)	(208,471)
Net cash from financing activities	32,320	43,658	49,393	50,038
Effect of exchange variance on cash and cash equivalents	-	-	17	1,301
Allocation of cash and cash equivalents	1	2	111,949	354
Cash and equivalents at January 01	-	-	274	397
Cash and equivalents at September 30	1	2	112,223	751
Increase in cash and cash equivalents	1	2	111,949	354

The accompanying notes are an integral part of the individual and consolidated quarterly financial information.

GranBio Investimentos S.A.

Statements of value added

Nine-month periods ended September 30, 2022 and 2021

(In thousands of Brazilian Reais)

	Parent company		Consolidated	
	09/30/2022	**9/30/2021**	**09/30/2022**	**9/30/2021**
Revenue				
Sales of merchandise, goods and services	-	-	20,902	28,484
Other revenue	1,528	(93)	12,279	(16,177)
Impairment loss on trade receivables	-	-	-	-
	1,528	**(93)**	**33,181**	**12,307**
Inputs acquired from third parties				
Costs	-	-	(27,558)	(43,577)
Material, electricity, outsourced services and other operational expenses	(8,740)	(6,048)	(20,091)	(23,399)
	(8,740)	**(6,048)**	**(47,649)**	**(66,976)**
Gross value added	**(7,212)**	**(6,141)**	**(14,468)**	**(54,669)**
Depreciation and amortization	(139)	(130)	(14,855)	(17,331)
	(139)	**(130)**	**(14,855)**	**(17,331)**
Net value added	**(7,351)**	**(6,271)**	**(29,323)**	**(72,000)**
Transferred added value				
Share of profit (loss) of equity-accounted investees	(76,966)	(118,327)	-	-
Financial revenue	7,544	1,783	6,834	2,091
	(69,422)	**(116,544)**	**6,834**	**2,091**
Added value to be distributed	**(76,773)**	**(122,815)**	**(22,489)**	**(69,909)**
Distribution of added value				
Personnel				
Direct compensation	1	96	2,806	7,561
Benefits	76	57	1,307	1,956
Government Severance Indemnity Fund for Employees (FGTS)	-	2	645	1,081
	77	**155**	**4,758**	**10,598**
Taxes and contributions				
Federal	77	277	2,101	3,431
State	-	-	677	(3,712)
	77	**277**	**2,778**	**(281)**
Return on debt capital				
Interest on loans, financing and debentures	12,127	12,916	59,289	56,557
	12,127	**12,916**	**59,289**	**56,557**
Return on equity capital				
Retained earnings	(89,054)	(136,163)	(89,054)	(136,163)
Noncontrolling interest	-	-	(260)	(620)
	(89,054)	**(136,163)**	**(89,314)**	**(136,783)**
Total	**(76,773)**	**(122,815)**	**(22,489)**	**(69,909)**

The accompanying notes are an integral part of the individual and consolidated financial statements.

Notes to the individual and consolidated quarterly financial statements

(In thousands of Brazilian Reais)

1 Reporting entity

GranBio Investimentos S.A. ("GranBio" or "Company") is a privately held company having its registered office at the address Av. Professor Almeida Prado, 532 – Edif. Prédio, 50, Butantã, São Paulo, São Paulo state. It was founded on June 13, 2011. Its ultimate and direct parent company is GranInvestimentos S.A., which has its registered office at the address at Av. Faria Lima, 3144 – 3º andar, Jardim Paulistano, São Paulo, in São Paulo state.

GranBio is a holding company. Its subsidiaries are mainly engaged in: (a) Logistical and technological solutions for supplying biomass (b) creating viable flexible biorefineries that can be rolled out on an industrial scale to convert biomass into cellulose sugar, biofuels, biochemicals, nanocellulose and other ligno-cellulosic materials, in addition to electricity; (c) developing and licensing patents and intellectual property in the renewables sector using biomass as a raw material; (d) generating and cogenerating renewable electric power.

Through its subsidiaries in the United States of America (USA), the Company develops and licenses clean technology to produce nanocellulose and biochemicals. GranBio LLC has upwards of 350 patents, including registered patents and applications, for various proprietary technologies it has developed. The Thomaston Research Center in Georgia, USA, has four integrated pilot plants that have been continuously operating for 11 years.

The Company has a strategic global licensing partnership with Maire Tecimont for the sale of GP+ technology for cellulosic ethanol with an EPC option (engineering, procurement and construction) with a fixed-price guarantee.

GranBio entered a global alliance with Nuseed for the technical development of sugarcane varietals as a source of biomass for second-generation biochemicals and fuels (2G). The alliance with Nuseed guarantees GranBio an exclusive cane-energy licensing contract in 2G biorefineries worldwide over the next 10 years.

The Company's quarterly statements include the Company and its subsidiaries (jointly referred to as the "Group").

Going concern status

As at September 30, 2022 the Company reports consolidated net working capital deficiency of R$ 681,290 and accumulated losses of R$ 828,526.

Due to the business characteristics of a technology firm, Management is continuously evaluating the ability of the Company and its subsidiaries to keep generating sufficient cash flows to assure they continue as a going concern for the foreseeable future by either generating operating cash flows, disposing of assets, obtaining external funding or shareholder funding.

The Company's Business Plan is based on the following actions already carried out impacting estimated future cash flows:

- In July 2021, the parent company GranInvestimentos S.A. contributed funds to the Company to partially settle the financing held by the subsidiary BioFlex Agroindustrial S.A. from BNB and the National Bank for Economic and Social Development – BNDES, totaling R$ 34,788;

- In August 2021, the parent company GranInvestimentos S.A. and the ultimate individual beneficiaries acquired all of the nonconvertible debentures issued by BioFlex Agroindustrial S.A., thereby reducing the Company’s overall indebtedness.
- In September 2021, the Company redeemed funds from a short-term investment to cover the full early amortization of one of the Company’s financing contracts with Financiadora de Estudos e Projetos – FINEP (No. 09.14-0013.00) in the amount of R$ 6,747, thereby reducing the Company’s overall indebtedness.
- On November 30, 2021, the company amended the financing contract consisting of credit facility 13.2.0418.1 with the National Bank for Economic and Social Development - BNDES in the amount of R$ 197,797, which postponed the final maturity of the facility to May 2025, changed the interest rate practiced for the subtranches and ratified the existing guarantees;
- By way of its shareholders, on March 09, 2022 the parent company GranInvestimentos S.A. fully settled the working capital loan, which stood at R$ 12,637 as at December 31, 2021, reducing the Company's overall indebtedness and increasing the balance of the loan payable to the Parent company;
- On September 08, 2022, the indirect subsidiary BioFlex Agroindustrial S.A. and Atlântica Sementes S.A, of Nuseed Group, entered a strategic long-term alliance to expedite investments in Research and Development (R&D) and sales in global sugarcane markets. Atlântica Sementes S.A acquired the commercial and sugarcane processing assets from the indirect subsidiary BioVertis Produção Agrícola Ltda. and the R&D program in order to improve the value of the energy produced by innovating in bioenergy cane. GranBio will continue investing in cane energy by way of Nuseed Group and will be the exclusive license holder of cane energy as a raw material for 2G applications in the ligno-cellulosic field, such as cellulose sugar and lignin, 2G ethanol, biochemicals, Sustainable Aviation Fuels (SAF) and renewable materials worldwide. The agreement will allow the value chain for fuel biomass to become a powerful solution to guarantee a secure supply of renewable raw material on a large-scale without competing with food products.

The planned actions that impact the future cash flow estimates are:

- Negotiating agreements with Itaú, Banco do Brasil and Bradesco in order to lengthen the debt with amortization 100% allocated to long-term and without the need for the initial disbursement of cash from current operations. The total exposure as at September 30, 2022 is R$ 219,998;
- Negotiation of agreement with BNDES to fully settle the obligations of the indirect subsidiary BioFlex Agroindustrial S.A. by assigning certain non-strategic assets. The total exposure as at September 30, 2022 is R$ 215,981;
- The Company is implementing its capital restructuring plan through: (i) profiling existing debts; (ii) initiatives to dispose of non-strategic assets in Brazil and the USA; (iii) identifying a strategic partner to work alongside it on the development of a business plan for technology sales and licensing and selling second generation ethanol and biochemicals; and (iv) negotiating cellulosic ethanol presale contracts as strategy of accelerating cash receipts to optimize its working capital balance and expedite investments to raise the capacity of BioFlex I.

As regards the business of the indirect subsidiary indirect BioFlex Agroindustrial S.A., due to price fluctuations in the energy market in the 2021/2022 crop year, Company management opted to direct inventory of straw biomass and bagasse to the production and sale of energy in the spot market of the joint venture Companhia Energética de São Miguel dos Campos (CESM). This is a specific short-term strategy that will not be adopted in the new 2022/2023 crop year, in which the unit will resume focusing on the production of 2G ethanol for export, taking advantage of the current favorable biofuel prices.

Considering the business plan, Management believes that obligations will be paid as planned, and that the cash flow generation will be appropriate to meet its obligations in the foreseeable future.

However, if the business plan is unsuccessful, the Company’s current parent companies have formally undertaken to continue supporting the Company in all actions required for continuing as a going concern, including the commitment to invest additional funds in an amount considered sufficient.

Based on its evaluation, Management has concluded that there is no significant uncertainty as to the Company's ability to continue as a going concern in the foreseeable future. Therefore, the Company and its subsidiaries' quarterly statements have been prepared on a going concern basis.

The Impacts of COVID 19 (Coronavirus) on Company business

On January 31, 2020, the World Health Organization (WHO) announced that the novel coronavirus (COVID-19) outbreak had become a global health emergency. On March 11, 2020, the WHO declared that the outbreak was a global pandemic. The outbreak has led governments and private sector entities to make impactful decisions, which coupled with the outbreak's potential have escalated uncertainty amongst economic agents and could have material impacts on our quarterly statements.

As disclosed in note 27 about market risks, we are exposed to US dollar exchange variance because of the investments in overseas subsidiaries of USD 5,806 thousand as at September 30, 2022. The possible impacts of our exposure to US dollar variance will be reflected in the item asset and liability valuation adjustments in Other comprehensive income and Investments.

Management is continuously monitoring the outbreak's impacts on our operations and the Company's equity and financial position, in order to take appropriate measures to mitigate the impacts on operations and the quarterly statements. The following measures had been taken by the date the issuance of these quarterly statements was authorized:

- Renegotiations of contracts with suppliers in order to align the acquisition of consumables with production based on the expected demand for the Company's products in light of the current post COVID-19 reality.
- Implementation of temporary staff adjustment measures, in order to preserve cash, such as suspending recruitments and implementing an unremunerated leave program; and
- Rescheduling the maturities of the Group's loans and financing with financial institutions and supplier payments in order to mitigate any liquidity risks.

2 List of subsidiaries

Direct subsidiaries

BioEdge Agroindustrial Ltda.: Company that invests in commercial second-generation and biochemical plants.

BioVertis Produção Agrícola Ltda. ("BioVertis"): Company engaged in the experimentation, development, plantation, production and collection of biomass, i.e., Vertix energy cane and sugarcane straw. The Company has Vertix Energy Cane licensing agreements with ethanol producers. Currently under this program a semi-commercial nursery is being created. The company was acquired by BioFlex Agroindustrial S.A. on June 02, 2022, as detailed in note 5.a.

GranBio LLC: A US-based company engaged in investing in companies strategically related to the Company's business plan, by creating technologies for converting biomass into cellulose sugar for biochemicals and second generation ethanol, in addition to developing nanocellulose for a range of industries.

Indirect subsidiaries

BioFlex Agroindustrial S.A.: Company engaged in the production of biomass, processing biomass for the production and sale of biofuel, electricity, biochemicals and pharmachemicals, technological research and development, sale of sugarcane straw, bagasse and biomass.

GranBio Intellectual Property Holdings LLC: It holds all the patents and trade and technological secrets developed by GranAPI LLC and its subsidiaries.

GranBio Conversion Technologies LLC: Company holds the assets of Thomaston, a demonstration plant for existing biomass conversion technologies. This company has a lease agreement for its assets for AVAPCO LLC.

American Green + LLC: Company holding the sublicensing rights for technology owned by GranBio Intellectual Property Holdings LLC for converting biomass into cellulosic ethanol.

AVAPCO LLC: Company holding the sublicensing rights for technology owned by GranBio Intellectual Property Holdings LLC for converting biomass into cellulosic ethanol. This company leases the Thomaston asset (a demonstration plant) from GranBio Process Conversion Technologies LLC to develop new technologies and provide client services.

GranBio Services Inc.: A US-based company engaged in investing in companies strategically related to the Company's business plan. It is the holding company of the three companies below:

Alpena Biorefinery Inc.: Company providing water treatment services to the paper and pulp company Decorative Panels International, located in Alpena, MI, and the production and sale of molasses to other clients.

Alpena Prototype Bioref LLC: Nonoperating company owner of the Alpena Biorefinery land.

Alternative Bioprod Inv. LLC: Nonoperational company.

Joint ventures

Companhia Energética de São Miguel dos Campos: Company dedicated to developing an integrated electricity and steam generation system running on biomass - cogeneration, electricity and steam supply and provision of services related to energy efficiency enhancement and generation. Most of the energy generated is to meet the demands of its shareholders and the surplus generation is fed into the electricity grid.

Note 5 shows the percentage ownership interest in the direct subsidiaries, indirect subsidiaries and joint ventures.

3 Basis of preparation and presentation of the individual and consolidated quarterly statements

The Executive Board approved the preparation of the individual and consolidated quarterly financial statements on November 09, 2022.

The preparation of the individual and consolidated quarterly financial statements for the period ended September 30, 2022 includes the individual and consolidated quarterly financial statements of the joint venture accounted for by the equity-income method.

Statement of compliance

The Company's individual quarterly statements have been prepared and are being presented in accordance with the standard NBC TG 21 (R4) and the consolidated interim financial statements in accordance with NBC TG 21 (R4) and the international standard IAS 34 - “Interim Financial Reporting”, issued by the “International Accounting Standards Board - (IASB) ” and the standards issued by the Brazilian Securities Commission, applicable to the individual and consolidated quarterly statements. NBC TG 21 (R4) / IAS 34 requires the use of certain accounting estimates by the Company’s Management. The quarterly financial statements have been prepared on the historical cost basis, except for certain financial assets and liabilities, which are measured at fair value. These Quarterly Statements do not include all the information and disclosures required in annual Financial Statements and should therefore be read in conjunction with the Financial Statements for the financial year ended December 31, 2021, which were prepared in accordance with IFRS and the accounting practices adopted in Brazil. There were no changes to the accounting practices adopted in the period ended September 30, 2022 in relation to those applicable at December 31, 2021.

Details about the Group's main accounting policies can be seen in note 5.

Functional currency and reporting currency

The individual and consolidated quarterly statements are being presented in Brazilian Reais, which is the Company and its subsidiaries' functional currency, except the subsidiary GranBio LLC and its direct and indirect subsidiaries, whose functional currency is the US Dollar. All balances have been rounded to the nearest thousand, unless otherwise indicated.

Use of estimates and judgments

In preparing the individual and consolidated quarterly statements, Management has made judgments and used estimates that affect the application of the accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to the estimates are recognized prospectively.

a. Judgments

The information on judgments made in applying the accounting policies that have the most significant effects on the amounts recognized in the individual and consolidated quarterly statements is included in the following notes:

- **Note 1- Going concern**: Management evaluation of how the Group will produce and/or obtain capital to support operations over the next 12 months.
- **Note 5 – Consolidation basis**: determines whether the Company actually holds the control of an investee.
- **Note 10** – **Other accounts payable** – **debentures**: the shareholder GranInvestimentos S.A. bought back the debentures issued by BioFlex Agroindustrial S.A for R$ 1.00., and each debenture payable by BioFlex is being restated to market value.
- **Note 11 - Investments**: determines whether the Company has influence over an investee;
- **Note 12- Property, plant and equipment and Note 13 - Intangible assets** - impairment test, key assumptions underlying the recoverable amounts. For further information see note 14.
- **Note 15 – Loans and borrowings:** Compliance with the contractual terms of loans and borrowings;
- **Note 21 - Net revenue from goods and services sold**: the Group recognizes revenue when it transfers the control of a product or service to the client.

b. Uncertainties about assumptions and estimates

Information about assumptions and estimation uncertainties as at September 30, 2022 that have a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities within the coming financial year are included in the following notes:

- **Note 9 - Inventory:** recoverable value of inventory based on market replacement cost, slow-moving products, expired products or products nearing the expiration date and products that do not meet quality standards, recorded as "Cost of products sold" and replacement cost in the market.
- **Note 12 - Property, plant and equipment:** impairment test and key assumptions underlying recoverable amounts. For further information see note 14.
- **Note 13** – **Intangible assets:** main assumptions underlying the recoverable amounts, including the recoverability of development costs, licenses, intellectual property and goodwill deriving from the business combination; for further information see note 14.

Measurement of fair value

A number of the Company's accounting policies and disclosures require the measurement of fair values, for both financial and non-financial assets and liabilities; disclosures are shown in note 27.

When measuring the fair value of an asset or a liability, the Group used observable market data as far as possible. Fair values are categorized into different levels in a fair value hierarchy based on the inputs used in the valuation techniques as follows.

Level 1: quoted prices (unadjusted) in active markets for identical assets or liabilities.
Level 2: inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices).
Level 3: inputs for the asset or liability that are not based on observable market data (unobservable inputs).

Further information about the assumptions adopted in measuring fair values is included in note 14.

4 Basis of measurement

The individual and consolidated financial statements have been prepared on the historical cost basis, except for the valuation of certain assets and liabilities, such as financial instruments, which are measured at fair value.

5 Significant accounting policies

The accounting policies set out below have been applied consistently to all periods presented in these individual and consolidated quarterly statements.

a. Basis of consolidation

Percentage interest in investees

See below the percentage interest in the direct and indirect subsidiaries and joint ventures as at September 30, 2022 and December 31, 2021.

	Country	Ownership interest	
Direct subsidiaries		**09/30/2022**	**12/31/2021**
GranBio LLC	USA	100.00%	100.00%
BioEdge Agroindustrial Ltda.	Brazil	100.00%	100.00%
BioVertis Produção Agrícola Ltda. (i)	Brazil	-	100.00%
Indirect subsidiaries			
Bioflex Agroindustrial S.A.	Brazil	100.00%	100.00%
GranAPI LLC (ii)	USA	-	100.00%
GranBio - Intellectual Property Holdings LLC	USA	97.00%	97.00%
GranBio Conversion Technologies LLC	USA	100.00%	100.00%
GranBio Conversion Technologies HoldCo (ii)	USA	-	100.00%
American Green + LLC	USA	100.00%	100.00%
AVAPCO LLC	USA	100.00%	100.00%
GranBio Services Inc.	USA	96.10%	96.10%
Alpena Biorefinery INC	USA	100.00%	100.00%
Alpena Prototype Bioref LLC	USA	100.00%	100.00%
Alternative Bioprod Inv. LLC	USA	100.00%	100.00%
Joint ventures			
Companhia Energética de São Miguel dos Campos – CESM	Brazil	50.00%	50.00%

i. On June 02, 2022, the direct subsidiary BioFlex Agroindustrial S.A. was merged into the also direct subsidiary BioFlex Agroindustrial S.A. This aimed to: (a) streamline and optimize our corporate structure, lowering the related party balance and operations and consequently consolidating and reducing operational expenses; (b) merging corporate resources and equity involved in the subsidiaries' operation to enable better management of operations, assets and cash flows, thereby optimizing the use of operational and financial resources and consequently obtaining greater benefits for the economic group's activities; and (c) greater operational integration will enable better use of existing synergies and the creation of new forms of synergies between company activities, to drive value creation.

ii. The Company is carrying out corporate restructuring to cut administrative costs and better manage business segments. On March 14, 2022, the companies GranBio Conversion Technologies HoldCo and GranAPI LLC were accordingly written off, with the existing balances of assets and liabilities before the operation being transferred to GranBio LLC.

(i) Subsidiaries

The Group controls an entity when it is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power over the entity. The quarterly statements of subsidiaries are included in the consolidated quarterly statements from the date on which control commences until the date on which control ceases.

The subsidiaries' quarterly information is recognized in the parent company's quarterly financial statements by the equity-income method.

(ii) Investments in equity-accounted investees

The Group's investments in entities valued by the equity method consists of interests in associated companies and joint ventures.

Associates are those entities in which the Group has significant direct or indirect influence, but not control or joint control, over the financial and operating policies. A joint venture is an arrangement in which the Group has joint control, whereby the Company has rights to the net assets of the arrangement, rather than rights to its assets and obligations for its liabilities.

These investments are recognized initially at cost, which includes transaction costs. Subsequent to initial recognition, the quarterly statements include the Company's share of profit or loss and OCI of equity-accounted investees, until the date on which significant influence or joint control ceases.

Investments in subsidiaries are also accounted for under the equity-income method in the parent company's individual quarterly financial statements.

(iii) Transactions eliminated on consolidation

Intra-group balances and transactions and any unrealized income and expenses arising from intra-group transactions are eliminated in preparing the consolidated quarterly statements. Unrealized gains driving from transactions with investees recorded by the equity income method are eliminated against the investment in proportion to the Group's interest in the investee. Unrealized losses are eliminated in the same way as unrealized gains, but only to the extent that there is no evidence of impairment.

(iv) Loss of control

When the Group loses control over a subsidiary, it derecognizes the assets and liabilities of the subsidiary, and any related NCI and other components of equity. Any gain or loss arising from the loss of control is recognized in profit or loss.

(v) Noncontrolling interest

NCI are measured initially at their proportionate share of the acquiree’s identifiable net assets at the date of acquisition. Changes in the Group’s interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions.

b. Foreign currency

(i) Foreign-currency transactions

Foreign-currency transactions are translated to the respective functional currencies of Company's entities at exchange rates at the dates of the transactions.

Cash assets and liabilities denominated in foreign currencies are translated into the functional currency at the exchange rate at the reporting date. Non-cash assets and liabilities that are measured at fair value in a foreign currency are translated to the functional currency at the exchange rate when the fair value was determined. Non-monetary items that are measured based on historical cost in a foreign currency are translated at the exchange rates at the date of the transaction. Foreign currency differences are generally recognized in profit or loss.

The investees’ statements of profit or loss and cash flow, not in the parent company’s functional currency, are translated to Brazilian currency at the average monthly exchange rate; assets and liabilities are translated at the closing rate and other equity items are translated at the historic rate.

The exchange variance on investments in subsidiaries and associated companies, not in the parent company’s functional currency, are recorded in equity as accumulated translation adjustments, and are transferred to profit or loss when investments are sold.

(ii) Overseas subsidiaries

The assets and liabilities of overseas subsidiaries, including goodwill and fair value adjustments arising on acquisition, are translated into Real at the exchange rates at the reporting date. The income and expenses of overseas subsidiaries are translated into Real at the exchange rates at the dates of the transactions.

Foreign currency differences arising from the translation of items into the reporting currency are recognized in other comprehensive income, and accumulated in the asset and liability valuation adjustments reserve in equity. If the subsidiary is a non-wholly owned subsidiary, then the relevant proportion of the translation difference is allocated to non-controlling interest.

c. Revenue

Revenue is measured based on the consideration specified in a contract with the customer. The Group recognizes revenue when it transfers control over a good or service to a customer or when the sale/concession of the license takes place.

The following topics provide information about the nature and timing of the satisfaction of performance obligations in contracts with customers, including significant payment terms, and the related revenue recognition policies:

- Service fee income: revenue is recognized over time as the services are provided. The stage of completion for determining the amount of revenue to recognize is assessed based on surveys of work performed. If the services under a single arrangement are rendered in different reporting periods, then the consideration is allocated based on their relative standalone selling prices. The stand-alone selling price is determined based on the list prices at which the Group sells the services in separate transactions. Invoices are issued monthly and are usually payable within 30 days.

- Resale of goods and Sugarcane and Energy Cane Vertix: revenue is recognized when the goods are delivered and have been accepted by customers at their premises Customers obtain control of products when the goods are delivered to and have been accepted at their premises. This sales revenue is recognized when the performance obligation is fulfilled, i.e., when the promised product is physically transferred, and the consumer obtains control over this product.
- License revenue: the Company's license revenue is recognized at the specific point in time of the sale or its concession, since, at that time, the customer can determine how and when to use that license without needing the Group’s performance, meaning, that the Group will no longer carry out any activities that significantly affect the intellectual property of this license to which the customer has rights. Therefore, the license provides the right to use the Company's intellectual property as it exists when it is sold and granted and, for this reason, the revenue is recognized at that specific time of the sale and concession of the license, since its intellectual property does not change, and the customer obtains control at the time the license is granted.
- Revenue from collaboration agreements: revenue is deferred and recognized over time on a straight-line basis, according to the time periods determined in the contract between the parties. The price and means of collection are determined in specific negotiations with each client.

d. Employee benefits

Short-term employee benefits

Short-term employee benefits are expensed as personnel expenses as the related service is provided. A liability is recognized for the amount expected to be paid if the Group has a present legal or constructive obligation to pay this amount as a result of past service provided by the employee, and the obligation can be estimated reliably.

e. Financial revenues and expenses

The Company's financial revenues and expenses include:

- Interest income and expenses;
- Net gain or loss on financial assets at fair value through profit and loss;
- Foreign currency gain or loss on financial assets and financial liabilities;

Interest income and expense are recognized using the effective interest method.

'Effective interest rate' means the rate that exactly discounts the estimated future cash payments or receipts through the expected life of the financial instrument at:

- gross carrying amount of the financial asset; or
- at amortized cost of the financial liability.

When calculating the interest income or expense, the effective interest rate is charged on the gross carrying amount of the asset (when the asset is not impaired) or at the amortized cost of the liability. However, interest revenue is calculated by applying the effective interest rate to the amortized cost of the financial asset suffering impairment after initial recognition. If the asset is no longer impaired, the interest revenue is once again calculated on the gross amount.

f. Inventory

Carried at the lower of average cost of purchase or production and net realizable value. The Group considers the following when determining its provision for inventory losses: slow turnover, expired products or products nearing the expiration date and products that do not meet quality standards. Inventory losses are recorded as “Cost of products sold” and replacement cost in the market. As per Note 9, the inventories are comprised of raw materials and consumables necessary for the production of 2G ethanol.

g. Property, plant and equipment

(i) Recognition and measurement

Items of property, plant and equipment are measured at the historic cost of acquisition or construction, which includes the capitalized loan costs, less accumulated depreciation and any impairment losses.

If parts of an item of property and equipment have different useful lives, then they are accounted for as separate items (major components) of property and equipment. Any gain or loss on disposal of an item of property, plant and equipment (calculated as the difference between the net proceeds from disposal and the carrying amount of the property, plant and equipment) is recognized in profit or loss.

(ii) Subsequent expenditure

Subsequent expenses are capitalized to the extent it is probable that the future benefits associated with these expenses shall be transferred to the Group. Ongoing repairs and maintenance are expensed as incurred in profit or loss.

(iii) Depreciation

Depreciation is calculated to amortize the cost of items of property, plant and equipment net of their estimated residual values using the straight-line method over their estimated useful lives, except for property, plant and equipment related to the operational plant that are depreciated based on the units-of-production method, being its outputs, projected for the next 40 years. Depreciation is recognized in profit or loss. The right-of-use asset is subsequently amortized using the straight-line method from the commencement date to the end of the lease term, unless the lease transfers ownership of the underlying asset to the Group by the end of the lease term or the cost of the right-of-use asset reflects that the Group will exercise a purchase option. In that case the right-of-use asset will be amortized over the useful life of the underlying asset. Land is not depreciated.

Items of property, plant and equipment are depreciated from the date they are installed and are available for use, or in the case of internally constructed assets, on the date construction is completed and the asset is available for use.

The estimated useful lives are (in years):

Property, plant and equipment	**09/30/2022 and 12/31/2021**
IT equipment	3 - 5
Vehicles	5
Furniture and fixtures	3 – 10
Lab machinery and equipment	2 – 10
Agricultural machinery and equipment	4 – 12
Leasehold improvements	25
Machinery, equipment and industrial facilities	2 – 40
Lease rights-of-use	10
Buildings and constructions	2 – 60

The depreciation methods, useful lives and residual values are reviewed annually and adjusted if appropriate.

h. Intangible assets and goodwill

(i) Goodwill

Goodwill arising on the acquisition of subsidiaries is measured at cost less accumulated impairment losses.

(ii) Research and development

Expenditure on research activities is recognized in profit or loss as incurred.

Development expenditure is capitalized only if the expenditure can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable and the Group intends to and has sufficient resources to complete development and to use or sell the asset. Subsequent to initial recognition, development expenditure is measured at cost less accumulated amortization and any accumulated impairment losses.

(iii) Other intangible assets

Other intangible assets that are acquired by the Group and have finite useful lives are measured at cost less accumulated amortization and any accumulated impairment losses. Subsequent expenditure is capitalized only when it increases the future economic benefits embodied in the specific asset to which it relates. Amortization is calculated on the cost of an asset or other equivalent cost, minus the residual value.

(iv) Subsequent expenses

Subsequent expenses are capitalized only when they increase the future economic benefits incorporated into the specific asset to which they relate. All other expenses are recognized in the statement of profit or loss as incurred.

(v) Amortization

Intangible assets are amortized on a straight-line basis in profit or loss over their estimated useful lives, from the date that they are available for use.

The estimated useful lives are as follows (in years):

Intangible assets	09/30/2022	12/31/2021
Software	5	5
Development - Energy Cane	-	14
Technology licenses and intellectual property	30	30

(vi) Technology licenses, intellectual property and goodwill deriving the business combination

The intangible assets are recorded at acquisition cost or fair value of the intangible assets acquired in a business combination, less accumulated amortization by the straight-line method, when applicable. These intangible assets are tested for impairment according to the accounting policy in note 5 (k.ii). Goodwill is not amortized.

i. Financial instruments

(i) Recognition and initial measurement

Trade receivables and issued debt securities are initially recognized on the date they originate.

All other financial assets and financial liabilities are initially recognized when the Group becomes a party to the contractual provisions of the instrument.

A financial asset (except for trade receivables without a significant financing component) or financial liability is initially measured at fair value. A trade receivable without a significant financing component is initially measured at the operation price.

(ii) Classification and subsequent measurement

Upon initial recognition a financial asset is classified as measured at amortized cost or fair value through profit or loss - FVTPL.

Financial assets are not reclassified subsequently to initial recognition, unless the Group changes its business model to financial asset management. In this case all the affected financial assets are reclassified on the first day of the first period following the business model change.

A financial asset is measured at amortized cost if it meets both of the following conditions below and it is not designated as at FVTPL:

- it is held within a business model whose objective is to hold assets to collect contractual cash flows; and
- its contractual terms generate the cash flows on specified dates that constitute solely payments of principal and interest on the outstanding principal.

A debt instrument is measured at FVTPL.

Financial assets that are held for trading or are managed and whose performance is evaluated on a fair value basis are measured at FVTPL.

Financial assets

These assets are subsequently measured at amortized cost using the effective interest method. The amortized cost is reduced for impairment. Interest revenue, exchange variance gains and losses and impairment are recognized in profit or loss. Any gain or loss on derecognition is recognized in profit or loss.

Financial liabilities

Financial liabilities were classified as measured at amortized cost or at FVTPL. A financial liability is classified as at FVTPL if it is classified as held-for trading, is a derivative or is designated as such on initial recognition. Financial liabilities stated at FVTPL are measured at fair value and net income (loss), including interest, is recognized in profit or loss. Other financial liabilities are subsequently measured at amortized cost using the effective interest method. Expenses on interest, exchange variance gains and losses are recognized in profit or loss. Any gain or loss resulting from derecognition is also recognized in profit or loss.

(iii) Derecognition

Financial assets

The Group derecognizes a financial asset when the contractual rights to the cash flows from the asset expire, or when the Group transfers the rights to receive the contractual cash flows of a financial asset in a transaction where essentially all the risks and rewards of ownership of financial assets are transferred or in which the Group neither transfers nor substantially retains all the risks and rewards of ownership of the financial asset nor retains control over the financial asset.

Financial liabilities

The Group derecognizes a financial liability when its contractual obligations are withdrawn, canceled, or expire. The Group also derecognizes a financial liability when its terms are modified and the cash flows from the modified liability are substantially different, in which case a new financial liability based on the modified terms is recognized at fair value.

Upon derecognizing a financial liability, the difference between the former carrying amount and the consideration paid (including assets transferred that do not flow through cash or assumed liabilities) is recognized in profit or loss.

(iv) Offsetting

Financial assets and financial liabilities are offset and the net amount presented in the statement of financial position when, and only when, the Group currently has a legally enforceable right to offset the amounts and intends either to settle them on a net basis or to realize the asset and settle the liability simultaneously.

j. Share Capital

Common shares are classified as equity.

Incremental costs directly attributable to the issuance of common shares and share options are recognized as a deduction from equity. Effects of taxes related to the transaction costs are accounted for in accordance with CPC 32/IAS 12.

k. Impairment

(i) Non-derivative financial assets

Financial instruments and contractual assets

The Group recognizes provisions for expected credit losses on:

- financial assets measured at amortized cost; and
- contract assets.

The Group measures the provision for loss at an amount equal to the lifetime ECL (expected credit losses). The provisions for losses on trade receivables and contract assets are measured at an amount equal to the expected credit loss for the instrument’s entire life.

When determining whether the credit risk of a financial asset has increased significantly since initial recognition and when estimating the lifetime ECL, the Group considers reasonable and supportable information that is material and available without excessive cost or effort. This includes quantitative and qualitative information and analyses based on the Company’s historic experience in credit evaluation and forward-looking information.

The Group assumes a financial asset's credit risk has risen substantially if it is more than 30 days overdue.

The Group considers a financial asset to be in default when:

- It is highly unlikely that the debtor will pay all of its credit obligations without resorting to actions such as enforcing the guarantee (if applicable) or
- the financial asset is more than 90 days overdue.

The Group considers that a debt security has a low credit risk when its credit risk rating is equivalent to the globally accepted definition of “investment grade”.

- Lifetime ECLs are ECLs that result from all possible default events over the expected life of a financial instrument.
- 12-month ECLs are ECLs that result from possible default events within the 12 months after the reporting date (or a shorter period, if the instrument’s expected life is shorter than 12 months);

Expected credit losses could also be affected as result of the economic disruption caused by the Covid-19 pandemic.

The maximum period considered to estimate the expected credit loss is the maximum contractual period during which the Group is subject to credit risks.

Measuring expected credit losses

Expected credit losses are estimates weighted by the credit loss probability. Expected losses are measured at present value based on all cash deficiencies (i.e., the difference between the cash flows owed to the Group according to the contract and the cash flows it expects to receive). Expected credit losses are discounted by the financial asset's effective interest rate, when applicable.

Impaired financial assets

At each reporting date, the Group evaluates whether the financial assets recorded at amortized cost are credit impaired. A financial asset is 'impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred. Objective evidence that a financial asset is impaired includes the following observable data:

Significant financial difficulty of the issuer or borrower; violation of contractual clauses, such as default or being more than 90 days overdue;
Restructuring of an amount due to the Group on terms that the Company would not consider otherwise;

The probability that the borrower will enter bankruptcy or other type of financial reorganization.
The disappearance of an active market for that financial asset because of financial difficulties.

Presenting the provision for expected credit losses in the statement of financial position

The provision for financial asset losses measured at amortized cost is deducted from the gross carrying amount of the assets, when applicable.

Write-off

The gross carrying amount of a financial asset is written off when the Group does not have a reasonable expectation to recover the financial asset in its entirety or in part. The Group expects no significant recovery from the amount written off. However, written-off financial assets can still be subject to credit enforcement to perform the Company procedures to recover the amounts due.

(ii) Non-financial assets

At each reporting date the Group reviews the carrying amounts of its non-financial assets (except biological assets and inventory) for signs of impairment. If any such indication exists, the asset's recoverable amount is estimated. Goodwill is tested for impairment annually.

For impairment testing, assets are grouped together into the smallest group of assets that generates cash inflows from continuing use that are largely independent of the cash inflows of other assets or CGUs (cash generating units). The goodwill acquired in a business combination is allocated to groups of CGUs that are expected to benefit from the synergies of the combination.

The recoverable value of an asset or cash generating unit is the higher of the value in-use and fair value minus selling expenses. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or the CGU.

An impairment loss is recognized if the carrying amount of an asset or CGU exceeds its recoverable amount.

Impairment losses are recognized in profit or loss. They are allocated first to reduce the carrying amount of any goodwill allocated to the CGU (or group of CGUs), and then to reduce the carrying amounts of the other assets in the CGU (or group of CGUs) on a pro rata basis.

An impairment loss in respect of goodwill is not reversed. For other assets, an impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.

l. Provisions

A provision is recognized when the Group has a legal or unofficial obligation as a result of past events, and it is probable that an outflow of economic benefits will be required to settle the obligation, which can be reliably estimated. When the Group expects a provision to be reimbursed, in part or full, for example as a result of an insurance contract, the reimbursement is recognized as a separate asset, but only when the reimbursement is a virtual certainty. Expenses related to any provision are presented in the statement of profit or loss net of any reimbursement. Any increase in the obligation over the course of time is recognized as a financial expense.

m. Statement of value added

The Group prepared the Statements of Value Added pursuant to technical pronouncement CPC 09 - Statement of value added. They are presented as an integral part of the financial statements in accordance with the BR GAAP applicable to publicly-held companies, while under IFRS they represent additional information.

6 Cash and cash equivalents

	Parent company		Consolidated	
	09/30/2022	**12/31/2021**	**09/30/2022**	**12/31/2021**
Cash and banks - checking account	1	-	75	274
Short-term investments	-	-	112,148	-
Total	**1**	**-**	**112,223**	**274**

Cash and cash equivalents include cash and bank deposits used to make and receive payments for the Company's operations in addition to short-term investments.

Short-term investments classified as current, with a maximum grace period of three months from investment to redemption, are used to manage immediate obligations. The yield on short-term investments is fixed income with an average of 96% of the CDI rate.

7 Short-term investments

	Parent company	
	09/30/2022	**12/31/2021**
Short-term investments	59,811	54,528
Total	**59,811**	**54,528**
Current	-	54,528
Noncurrent	59,811	-

Short-term investments in 39,229 units of the debenture BFLE11 for R$ 50,897, with the restated balance as at September 30, 2022, including the financial yield totals R$ 59,811. The seventh amendment was made to the private simple public debentures issuance deed on May 30, 2022, extending the maturity to December 2025. This debenture was initially an exclusive operation between the subsidiary BioFlex Agroindustrial S.A and Banco Itaú S.A. As a result of this investment made by the Company, part of BioFlex's debt under this debenture was transferred to the parent company itself. For the purpose of consolidation this amount is therefore eliminated from the item short-term investments and loans and borrowings.

8 Accounts receivable

	Consolidated	
	09/30/2022	**12/31/2021**
Trade and other receivables	11,585	1,294
Total	**11,585**	**1,294**

As at September 30, 2022, the amounts recorded in this item primarily consist of accounts receivable of R$ 10,813 (USD 2,000) from the sale of energy cane assets as described in note 24.

Receivables schedule

See below an aging list for receivables:

	Consolidated	
	09/30/2022	**12/31/2021**
Neither past due nor impaired	10,813	-
1 to 30 days past due	428	-
31 to 60 days past due	-	19
91 to 360 days past due	-	3
More than 1 year past due	344	1,272
	11,585	**1,294**

9 Inventories

	Consolidated	
	09/30/2022	**12/31/2021**
Raw materials (i)	2,697	2,664
Consumables (ii)	5,893	6,030
Finished goods	27	29
Total	**8,617**	**8,723**

(i) The main raw materials are enzymes and straw required for the production of 2G ethanol. The Company and its subsidiaries have insurance contracts due to the risks involved.

(ii) Balance of various consumables used to produce 2G ethanol. Part of the enzyme inventory is stored at third parties. There was R$ 4,753 relating to 286.0000 kg as at September 30, 2022, and December 31, 2021.

Inventory risks:

• Inventory counts are carried out annually and when necessary all differences between physical counts and accounting records are adjusted. However, in recent years there have been no significant inventory adjustments.
• The risk of loss of value was recorded for straw due to the average cost of the inventories being higher than the replacement cost in the market, mentioned below.

Management valued the inventory based on its recoverable value as at September 30, 2022, and December 31, 2021 as follows:

Changes	**Provision for inventory**
Balances at December 31, 2020	**(22,147)**
Usage of provision for losses	21,935
Balances at December 31, 2021	**(212)**
Usage of provision for losses	30
Balances at September 30, 2022	**(182)**

10 Related-party transactions

The Company has transactions with its direct subsidiaries, indirect subsidiaries, joint ventures, parent companies and associated companies, in order to provide funds to maintain its operations. Such operations do not incur interest or have a maturity date, as agreed by the parties.

Transactions between related parties refer to loans for cash supply and commercial transactions related to cost-sharing and other commercial transactions. As at September 30, 2022, and December 31, 2021, the balances break down as follows:

Parent company

	Ratio		09/30/2022 Assets	09/30/2022 Liabilities	12/31/2021 Assets	12/31/2021 Liabilities
Loans						
BioEdge Agroindustrial Ltda.	Subsidiary	(i)	11,650		-	-
BioFlex Agroindustrial S.A.	Subsidiary	(i)	745		-	-
GranBio LLC	Subsidiary	(iv)	-	34,240	-	35,343
Graal Participações Ltda.	Other	(vi)	-	150	-	-
GranInvestimentos S.A.	Parent company	(ii)		340,880	-	281,011
Total			**12,395**	**375,270**	**-**	**316,354**
	Current		**-**	**375,270**	**-**	**316,354**
	Noncurrent		**12,395**	**-**	**-**	**-**

- Consolidated

	Ratio		09/30/2022 Assets	09/30/2022 Liabilities	12/31/2021 Assets	12/31/2021 Liabilities
Loans						
GranInvestimentos S.A.	Parent company	(ii)	-	340,880	-	281,011
Graal Participações Ltda.	Other	(vi)	-	150	-	-
Total			**-**	**341,030**	**-**	**281,011**
Other accounts payable to related parties						
Shareholder investment fund	Other	(v)	-	27,099	-	25,050
GranInvestimentos S.A.	Parent company	(v)	-	34,581	-	31,664
			-	**61,680**	**-**	**56,714**
Total			**-**	**402,710**	**-**	**337,725**
Trade receivables / payables						
Companhia Energética São Miguel dos Campos	Joint venture	(iii)	103,561	-	83,540	-
Total			**103,561**	**-**	**83,540**	**-**
Grand Total			**103,561**	**402,710**	**83,540**	**337,725**
	Current		**-**	**341,030**	**-**	**337,725**
	Noncurrent		**103,561**	**61,680**	**83,540**	**-**

Operations affecting profit or loss for the periods:

- Consolidated

	Ratio		07/01/2022 to 09/30/2022	1/1/2022 to 9/30/2022	7/1/2021 to 9/30/2021	1/1/2021 to 9/30/2021
Lease income						
Companhia Energética São Miguel dos Campos	Joint venture	(iii)	3,312	13,251	5,108	15,325
Proceeds from sale of thermal power station						
Companhia Energética São Miguel dos Campos	Joint venture	(vii)	(90,636)	(90,636)	-	-

(i) Denote the amounts in the Company's current account with its subsidiaries expected to be settled in the short-term. The operations have no interest or maturity.
(ii) Cash received from the Company's subsidiary to supply cash for operating activities.
(iii) Amounts receivable mainly related to the commercial lease of the boiler between the indirect subsidiaries BioFlex Agroindustrial S.A. and Companhia Energética São Miguel dos Campos – CESM. The amount will be received by generating cash from CESM's operations.
(iv) Loan taken out from GranBio LLC with no interest or maturity.
(v) Part of the debentures issued by the direct subsidiary BioFlex Agroindustrial S.A. were purchased in August 2021 by the shareholder GranInvestimentos S.A. for R$ 1.00 (22,771 units for a restated R$ 33,472) and by an investment fund of the ultimate beneficiaries of GranInvestimentos S.A. (18,000 units worth a restated R$ 26,460). As a result of this, the payable balance of the debentures was then reclassified as other accounts payable with related parties.
(vi) Loan taken out from Graal Participações Ltda. with no interest or maturity.
(vii) BioFlex’s thermoelectric assets were sold to Companhia Energética São Miguel dos Campos – CESM on September 30, 2022. This sale generated loss of R$ 90,636. For further information see note 24.

Key management personnel compensation

	Parent company				Consolidated			
	7/1/2022 to 9/30/2022	1/1/2022 to 9/30/2022	7/1/2021 to 9/30/2021	1/1/2021 to 9/30/2021	7/1/2022 to 9/30/2022	1/1/2022 to 9/30/2022	7/1/2021 to 9/30/2021	1/1/2021 to 9/30/2021
Key management personnel compensation	(57)	(177)	(60)	(339)	(258)	(764)	(344)	(1,345)
Total	**(57)**	**(177)**	**(60)**	**(339)**	**(258)**	**(764)**	**(344)**	**(1,345)**

The amount paid as key management personnel compensation has been included in personal expenses disclosed in note 23.

11 Investment

a. Breakdown of balances

	Parent Company	
	09/30/2022	12/31/2021
Direct and indirect subsidiaries	908,134	991,155
Total	**908,134**	**991,155**

b. Direct investments

	Equity		Loss for the period	
Investees	**09/30/2022**	**12/31/2021**	**09/30/2022**	**09/30/2021**
BioEdge Agroindustrial Ltda.	341,467	379,032	(54,036)	(89,815)
BioVertis Produção Agrícola Ltda.	-	19,642	(3,171)	(4,237)
BioCelere Agroindustrial Ltda.	-	-	-	(774)
GranBio LLC	566,667	592,481	(19,759)	(23,501)

c. Changes in investments

- **Direct subsidiaries**

	Balance at 12/31/2021	Translation adjustment	Investment		Merger	Share of profit (loss) of equity-accounted investees	Balance at 09/30/2022
Subsidiaries							
BioEdge Agroindustrial Ltda.	379,032	-	-		16,471	(54,036)	341,467
BioVertis Produção Agrícola Ltda.	19,642	-	-		(16,471)	(3,171)	-
GranBio LLC	592,481	(19,036)	12,981	(i)	-	(19,759)	566,667
Subtotal	**991,155**	**(19,036)**	**12,981**		**-**	**(76,966)**	**908,134**
Total investments	**991,155**	**(19,036)**	**12,981**		**-**	**(76,966)**	**908,134**

(i) Financial contributions made in the investee based on its cash requirement.

	Balance at 12/31/2020	Translation adjustment	Investment		Write-off of investments	Merger	Share of profit (loss) of equity-accounted investees	Balance at 09/30/2021
Subsidiaries								
BioEdge Agroindustrial Ltda.	422,709	-	-		-	-	(89,815)	332,894
BioVertis Produção Agrícola Ltda.	9,587	-	-		-	12,464	(4,237)	17,814
BioCelere Agroindustrial Ltda.	13,238	-	-		-	(12,464)	(774)	-
BioPlant Agroindustrial Ltda.	41	-	-		(41)	-	-	-
GranBio LLC	513,597	25,685	32,883	(i)	-	-	(23,501)	548,664
Total investments	**959,172**	**25,685**	**32,883**		**(41)**	**-**	**(118,327)**	**899,372**

(i) Financial contributions made in the investee based on its cash requirement.

a. Summary of direct subsidiaries' equity accounts

Direct subsidiaries at September 30, 2022.	**Assets**	**Liabilities**	**Controlling interest**	**Noncontrolling interest**	**Equity**
BioEdge Agroindustrial Ltda.	1,168,489	827,022	341,467	-	341,467
GranBio LLC	661,688	91,751	566,667	3,270	569,937

Direct subsidiaries at December 31, 2021.	**Assets**	**Liabilities**	**Controlling interest**	**Noncontrolling interest**	**Equity**
BioEdge Agroindustrial Ltda.	1,001,661	622,629	379,032	-	379,032
BioVertis Produção Agrícola Ltda.	33,412	13,770	19,642	-	19,642
GranBio LLC	701,266	105,255	592,481	3,530	596,011

The investment in the Joint Venture, Companhia Energética de São Miguel dos Campos (CESM), was reduced to zero. Additional losses and a liability were not recognized as the Company does not have legal or constructive obligations (not formalized) and does make payments on the investee's behalf.

Direct subsidiaries	**Net result 09/30/2022**	**Net result 09/30/2021**
BioEdge Agroindustrial Ltda.	(54,036)	(89,815)
BioVertis Produção Agrícola Ltda.	(3,171)	(4,237)
BioCelere Agroindustrial Ltda.	-	(774)
GranBio LLC	(19,759)	(23,501)

12 Property, plant and equipment

a. Breakdown of carrying amount

- Parent Company

	09/30/2022			**12/31/2021**
	Cost	**Depreciation**	**Net**	**Net**
Furniture and fixtures	874	(862)	12	2
Leasehold improvements	688	(13)	675	-
IT equipment	815	(812)	3	28
Administrative facilities	84	(84)	-	1,191
Right of use	2,081	(256)	1,825	1,929
	4,542	**(2,027)**	**2,515**	**3,150**

- Consolidated

	09/30/2022			**12/31/2021**
	Cost	**Depreciation**	**Net**	**Net**
IT equipment	3,274	(3,142)	132	8
Furniture and fixtures	1,738	(1,607)	131	193
Lab machinery and equipment	5,631	(4,783)	848	1,511
Agricultural machinery and equipment	40,209	(32,718)	7,491	11,605
Improvements to rented property	4,929	(2,630)	2,299	6,244
Industrial machinery, equipment and facilities	850,752	(155,165)	695,587	823,077
Property, plant and equipment in progress	3,942	-	3,942	5,761
Right of use	2,081	(256)	1,825	1,929
Land	2,324	-	2,324	2,394
Buildings and constructions	42,417	(4,518)	37,899	40,245
Total	**957,297**	**(204,819)**	**752,478**	**892,967**

Changes in property, plant and equipment

- Parent Company

	Balance at 12/31/2021	Additions	Write-off	Reclassification	Balance at 09/30/2022
Cost					
Leasehold improvements	-	-	-	688	688
Property, plant and equipment in progress	1,191	-	(503)	(688)	-
Furniture and fixtures	874	-	-		874
IT equipment	808	7	-	-	815
Administrative facilities	84	-	-	-	84
Right of use	2,081	-	-	-	2,081
Total	**5,038**	**7**	**(503)**	-	**4,542**
Depreciation					
Leasehold improvements	-	(13)	-	-	(13)
Furniture and fixtures	(846)	(16)	-	-	(862)
IT equipment	(808)	(4)	-	-	(812)
Administrative facilities	(82)	(2)	-	-	(84)
Right of use	(152)	(104)	-	-	(256)
Total	**(1,888)**	**(139)**	-	-	**(2,027)**
Total property, plant and equipment	**3,150**	**(132)**	**(503)**	**-**	**2,515**

	Balance at 12/31/2020	Additions	Write-offs	Balance at 09/30/2021
Cost				
Property, plant and equipment in progress	896	295	-	1,191
Furniture and fixtures	912	-	(38)	874
IT equipment	808	-	-	808
Administrative facilities	84	-	-	84
Right of use	2,081	-	-	2,081
Total	**4,781**	**295**	**(38)**	**5,038**
			-	
Depreciation			-	
Furniture and fixtures	(849)	(28)	38	(839)
IT equipment	(808)	-	-	(808)
Administrative facilities	(82)	-		(82)
Right of use	(12)	(104)	-	(116)
Total	**(1,751)**	**(132)**	**38**	**(1,845)**
Total property, plant and equipment	**3,030**	**163**	**-**	**3,193**

- Consolidated

	Balances at 12/31/2021	Addition	Write-off	Merger	Exchange variance	Reclassification	Balances at 09/30/2022
Cost							
IT equipment	3,489	120	(253)	(41)	(41)	-	3,274
Vehicles	20	-	(20)	-	-	-	-
Furniture and fixtures	2,020	-	(88)	(190)	(4)	-	1,738
Lab machinery and equipment	6,433	-	(245)	(417)	(140)	-	5,631
Agricultural machinery and equipment	43,601	-	(2,033)	(1,359)	-	-	40,209
Leasehold improvements	9,543	-	(5,302)	-	-	688	4,929
Machinery, equipment and facilities	1,015,660	-	(160,361)	(412)	(4,135)	-	850,752
Property, plant and equipment in progress	5,761	-	(1,131)	-	-	(688)	3,942
Right of use	2,081	-	-	-	-	-	2,081
Land	2,394	-	-	-	(70)	-	2,324
Buildings and constructions	44,925	-	(1,532)	(853)	(123)	-	42,417
Total	**1,135,927**	**120**	**(170,965)**	**(3,272)**	**(4,513)**	**-**	**957,297**
Depreciation							
IT equipment	(3,481)	(3)	253	41	48	-	(3,142)
Vehicles	(20)	-	20	-	-	-	-
Furniture and fixtures	(1,827)	(52)	76	190	6	-	(1,607)
Lab machinery and equipment	(4,922)	(506)	121	417	107	-	(4,783)
Agricultural machinery and equipment	(31,996)	(3,223)	1,142	1,359	-	-	(32,718)
Leasehold improvements	(3,299)	(190)	859	-	-	-	(2,630)
Machinery, equipment and facilities	(192,583)	(18,562)	52,035	412	3,533	-	(155,165)
Right of use	(152)	(104)	-	-	-	-	(256)
Buildings and constructions	(4,680)	(763)	24	853	48	-	(4,518)
Total	**(242,960)**	**(23,403)**	**54,530**	**3,272**	**3,742**	**-**	**(204,819)**
Total of Property, plant and equipment	**892,967**	**(23,283)**	**(116,435)**	**-**	**(771)**	**-**	**752,478**

	Balance at 12/31/2020	Additions	Write-off	Merger	Exchange variance	Balance at 09/30/2021
Cost						
IT equipment	3,809	-	-	(424)	66	3,451
Vehicles	146	-	(40)	-	-	106
Furniture and fixtures	2,108	-	(37)	(58)	5	2,018
Lab machinery and equipment	7,997	91	-	(1,967)	191	6,312
Agricultural machinery and equipment	46,457	-	(2,656)	-	-	43,801
Leasehold improvements	10,410	-	-	(867)	-	9,543
Industrial machinery, equipment and facilities	1,028,757	-	(22,144)	(28)	5,769	1,012,354
Property, plant and equipment in progress	4,954	807	-	-	-	5,761
Right of use	2,081	-	-	-	-	2,081
Land	2,239	-	-	-	98	2,337
Buildings and constructions	44,654	-	-	-	171	44,825
Total	**1,153,612**	**898**	**(24,877)**	**(3,344)**	**6,300**	**1,132,589**
Depreciation						
IT equipment	(3,794)	(5)	-	424	(66)	(3,441)
Vehicles	(146)	-	40		-	(106)
Furniture and fixtures	(1,832)	(61)	36	58	(5)	(1,804)
Lab machinery and equipment	(6,060)	(513)	-	1,967	(165)	(4,771)
Agricultural machinery and equipment	(29,555)	(3,394)	2,011	-	-	(30,938)
Leasehold improvements	(3,918)	(187)	-	867	-	(3,238)
Industrial machinery, equipment and facilities	(156,802)	(21,539)	537	28	(5,049)	(182,825)
Right of use	(12)	(104)	-	-	-	(116)
Buildings and constructions	(3,362)	(779)	-	-	(64)	(4,205)
Total	**(205,481)**	**(26,582)**	**2,624**	**3,344**	**(5,349)**	**(231,444)**
Total of Property, plant and equipment	**948,131**	**(25,684)**	**(22,253)**	**-**	**951**	**901,145**

Property, plant and equipment in progress

As at September 30, 2022, and December 31, 2021 the balance of property, plant and equipment in progress consists of expenses to upgrade consumables processing and feeding machinery and upgrades to the dedusting system.

Guarantees

The acquisition value of property, plant and equipment pledged as guarantees at September 30, 2022 under BNDES and FINEP contracts amounts to R$ 261,812 (R$ 261,812 at December 31, 2021). For further information see note 15 (c).

Write-off of assets

As at September 30, 2022, the amount of R$ 116,435 consists of: (i) write-off through the sale of certain assets related to the thermoelectric plant’s operation in the amount of R$ 112,636 to the Joint Venture CESM (Companhia Energética de São Miguel dos Campos) formerly leased to it; (ii) write-off through the sale of assets related to the experimental station held by the indirect subsidiary BioVertis Produção Agrícola Ltda. in the amount of R$ 2,801 and; (iii) other write-offs through sales of R$ 998. For further information see note 24.

13 Intangible assets - Consolidated

	Software	Development	Licenses and intellectual property	Goodwill	Total
Balances at 12/31/2020	**265**	**29,321**	**476,676**	**120,996**	**627,258**
Additions	-	-	1,492	-	1,492
Amortization (a)	(149)	(513)	(13,578)	-	(14,240)
Exchange variance	-	-	22,018	5,650	27,668
Balances at September 30, 2021	**116**	**28,808**	**486,608**	**126,646**	**642,178**
Balances at December 31, 2021	**116**	**28,500**	**494,883**	**129,931**	**653,430**
Additions	-	-	577	-	577
Write-off	-	(15,789)	(225)	-	(16,014)
Amortization (a)	(5)	(821)	(12,657)	-	(13,483)
Exchange variance	-	-	(15,013)	(4,049)	(19,062)
Balances at September 30, 2022	**111**	**11,890**	**467,565**	**125,882**	**605,448**

(a) Amortization expenses were recognized in administrative and general expenses.

Development – development of genetically modified yeast to ferment cellulose sugar in the amount of R$ 11,890 as at September 30, 2022. As at March 31, 2022, 4 patents were written off in the amount of R$ 495 due to the discontinuation of projects and R$ 15,294 was written off on September 08, 2022, due to the sale of proprietary energy cane varietals, whose results can be seen in Note 24.

Licenses and intellectual property ownership - Amounts denoting the development of intellectual property and licensing related to nanocellulose and biorefinery technology and trade and industrial secrets. R$ 368,086 was recognized on March 31, 2019 as intangible assets identified by Management in the business combination between Granbio LLC and the companies GranAPI LLC, API- Property-Intelectual Holdings LLC, American Process Conversion Technologies LLC and American Process Conversion Technologies Holdco LLC. The amount related to technology and intellectual property licenses was calculated based on the expected revenue generated by selling licenses to third parties, the existing commercial pipeline and prospects for growth in the number of projects for converting biomass into cellulosic ethanol, biochemicals and nanocellulose.

Goodwill – Denotes expected future earnings generated for the companies GranAPI LLC, API-Propriety Intellectual Holdings LLC, American Process Conversion Technologies LLC and American Process Conversion Technologies Holdco LLC, as a result of their technology. Management used the relief-from-royalty method to estimate the fair value of these companies' technology. This method assumes that instead of paying for a property, a company is willing to pay to exploit the benefits related to this class of assets. This goodwill is not deductible for tax purposes.

14 Impairment analysis

Property, plant and equipment and intangible assets that are subject to depreciation and amortization are therefore tested for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Due to the limited operating history and investment in innovation, the Group annually conducts impairment tests for BioFlex Agroindustrial S.A.'s PPE and for GranBio LLC's intangible assets and goodwill.

The recoverable amount was determined by using the discounted cash flows determined by Management based on budgets taking into account assumptions for each CGU using budget assumptions and historical performance previously demonstrated.

The average weighted capital cost for discounting consisted of the alternative market funding base debt cost and CAPM methodology base equity cost, reflecting a reference beta for the renewable industry.

a. Property, plant and equipment

Regarding the impairment test for the subsidiary BioFlex Agroindustrial S.A., the Group used a projected cash flow, which reflects the expected use of the recently implemented asset and the investments being made to achieve commercial capacity in an ongoing operation. The 2G ethanol prices were determined based on evidence from target markets. The operating expense projection was compiled based on the history of costs incurred adjusted to an industrial capacity level of use. As at December 31, 2021 the impairment tests conducted by the Group did not reveal the need for adjustments to the balances for the aforesaid projects. The realization of the assumptions made to prepare this test is conditioned to the start of commercial scale production of the 2G ethanol plant.

As at September 30, 2022, the Group assessed its property, plant and equipment and did not identify any evidence of impairment.

b. Intangible assets and goodwill

As regards the impairment test for the subsidiary GranBio LLC, as at December 31, 2021 the Group used a 7-year cash flow plus perpetuity, which reflects the expected use of the recently implemented asset and the investments being made to achieve commercial capacity in an ongoing operation. The 2G ethanol prices were determined based on evidence from target markets. The operating expense projection was compiled based on the history of costs incurred adjusted to an industrial capacity level of use. As at December 31, 2021, the impairment tests conducted by the Group did not reveal the need for adjustments to the balances of intangible assets and goodwill.

As at September 30, 2022, the Group assessed its intangible assets and did not identify any evidence of impairment.

15 Loans and financing

				Parent Company		Consolidated	
Type	**Index**	**Charges**	**Maturity**	**09/30/2022**	**12/31/2021**	**09/30/2022**	**12/31/2021**
FINEP - Financing	TJLP	+ 11.00%	Feb/29	133,646	134,802	133,646	134,802
Working capital	CDI	-	Feb/22	-	12,637	-	12,637
BNDES - Financing	IPCA	+3.11%	May/25	-	-	215,981	201,472
Honoring bank guarantees	CDI	-	Jun/22	-	-	219,998	202,106
				133,646	**147,439**	**569,625**	**551,017**
		Current		**8,619**	**18,547**	**378,287**	**284,719**
		Noncurrent		**125,027**	**128,892**	**191,338**	**266,298**

The short-term debt has exerted pressure on the Group’s cash flow and led it to incur a negative net working capital. Management concluded renegotiations with the financial institutions to lengthen its debt profile in order to ease up its operating cash flow, and bank guarantees are being renegotiated. See Note 1.

Financing

The BNB financing was taken out in order to fund the construction of the industrial cellulosic ethanol production plant and to acquire agricultural machinery to harvest the raw material.

The FINEP financing consists of contracts funding the research and development projects for biomass (Energy Cane Vertix) and yeast, in addition to technologies for converting biomass into biochemicals and biofuel.

Honoring bank guarantees

In FY 2021, the Company restructured its loans and financing with its leading creditors, and the guarantees on loans and financing from public banks were exercised by private banks. As a result of these developments, the balance payable as at September 30, 2022, is R$ 33,728 to Banco Itaú, R$ 83,168 to Banco Bradesco and R$ 103,102 to Banco do Brasil. The Company is negotiating with the financial institutions, in order to lengthen the debt with amortization 100% allocated to long-term and without the need for the initial disbursement of cash from current operations.

a. Debt amortization schedule

See below the contractual maturities of financial liabilities:

	Parent Company		Consolidated	
	09/30/2022	**12/31/2021**	**09/30/2022**	**12/31/2021**
1 year	8,619	18,547	378,287	284,719
2 years	10,742	6,959	50,528	89,333
3 years	25,888	14,688	52,412	51,838
4 years onwards	88,397	107,245	88,398	125,127
Total	**133,646**	**147,439**	**569,625**	**551,017**

a. Reconciliation of equity changes with cash flows deriving from financing activities

	Parent Company	Consolidated
Balance at 12/31/2020	**154,997**	**643,311**
Loans and financing obtained	3,251	166,501
Amortization of loans and financing (principal)	(11,380)	(208,471)
Provision for interest on loans, financing and debentures	10,766	45,499
Debenture purchase by related parties (i)		(55,544)
Amortization of loans and financing (interest)	(8,872)	(29,499)
Balance at 09/30/2021	**148,762**	**561,797**
Balance at 12/31/2021	**147,439**	**551,017**
Amortization of loans and financing (principal)	(14,201)	(14,201)
Provision for interest on loans and financing	11,599	51,908
Amortization of loans and financing (interest)	(11,191)	(19,099)
Balance at 09/30/2022	**133,646**	**569,525**

(i) Purchase of shares in the debentures of BioFlex Agroindustrial S.A. by related parties, with the amount reclassified to other accounts payable with related parties, as detailed in note 10.

b. Guarantees

The Company's debts are secured by bank guarantee and corporate endorsement and the subsidiaries' debts by bank guarantees, corporate endorsements and real guarantees. The real guarantees are imposed on property, plant and equipment by BNDES and FINEP. Both institutions have a mortgage on the industrial assets of the subsidiary BioFlex, level 1 and 2 mortgages respectively, and FINEP also has a guarantee over agricultural equipment. See the values of property, plant and equipment assigned as collateral in Note 12.

c. Covenants

The Group has loans and financing in the individual and consolidated statements maturing by February 2029. The loans and financing contain non-financial operating covenants establishing a range of obligations, listed below:

- Compliance with environmental obligations and legislation, the biosafety quality certificate (CQB) and the Gene Pool Management Council (CGEN).
- Submitting federal, state and municipal tax debt clearance certificates.
- Having not incurred protests for indisputable debts.
- Pausing of operating activities.
- Corporate and equity restructuring.

The Company also engaged independent legal advice to corroborate management's interpretation that no contract subject to a covenant forbidding protests of indisputable debts should be reclassified to current liabilities. Both opinions conclude there are no legal or contractual grounds for early maturity.

16 Trade payables

	Parent Company		Consolidated	
	09/30/2022	**12/31/2021**	**09/30/2022**	**12/31/2021**
Domestic payables	1,052	4,544	15,100	23,716
Foreign payables	-	-	36,170	40,004
Total	**1,052**	**4,544**	**51,270**	**63,720**

Trade payables are mainly due to the purchase of raw materials for the 2G ethanol production process and independent auditing and consultancy services acquired.

17 Accounts payable – Consolidated

	Consolidated	
	09/30/2022	**12/31/2021**
Co-obligations payable (i)	17,154	17,137
Other accounts payable	2,749	3,146
Total	**19,903**	**20,283**
Current	**17,926**	**19,472**
Noncurrent	**1,977**	**811**

(i) This consists of procuring guarantees payable to the financial institutions securing the loans and financing taken out by the Company.

See below the schedule by year of maturity for accounts payable classified in non-current liabilities:

	09/30/2022	12/31/2021
1 to 2 years	1,977	811
Total	**1,977**	**811**

18 Deferred revenue

	Consolidated	
	09/30/2022	12/31/2021
Collaboration agreement - Nextchem (i)	7,569	12,835
Right of use – Birla / US Endowment (ii)	913	2,180
	8,482	**15,015**
Current	**6,797**	**6,697**
Noncurrent	**1,685**	**8,318**

(i) On July 31, 2020, the Group established a strategic alliance with NextChem, a subsidiary of the Italian engineering group Maire Tecnimont with a worldwide presence in renewable energy. This is a 10-year partnership and has the following values and premises:

- USD 4,000 thousand received after signing the contract;
- USD 4,000 thousand will be received after the technology license has been sold;
- USD 4,000 thousand will be received after the plant starts production for the sale of the first license or the sale of the second technology license;
- USD 3,000 thousand will be received in engineering services to optimize the technology and develop a “process design package”.

The first tranche of R$ 21,855 (USD 4,000) thousand was received in August 2020 and recognized as deferred revenue, which will be amortized over 40 years, as per the contract. The contract has a total value of R$ 78,050 (USD 15,000 thousand), with residual tranches of R$ 57,236 (USD 11,000 thousand), of which R$ 41,626 (USD 8 thousand) will be received in cash and R$ 15,610 (USD 3,000 thousand) in services provided by Nextchem. These amounts were converted to dollars at the time of the operation.
There was a partial pro-rata amortization over 40 months (USD 100 per month) of the contract, with the carrying amount of R$ 7,569 (USD 1,400 thousand) converted at the exchange rate of September 30, 2022.

(ii) On November 01, 2021 the parent company AVAPCO LLC and the United States Endowment for Forestry and Communities, Inc. signed an agreement to continue developing nanocellulose in collaboration with Birla Carbon. The contract total is R$ 2,835 (USD 500) and is effective until December 15, 2022. The amount was received at sight and is being recognized as revenue in the statement of profit or loss for the year according to the contractual term. The deferred revenue balance as at September 30, 2022, is R$ 913 (USD 169).

19 Contingencies

The Company and its subsidiaries are defendants in cases rated as possible defeats by our legal advisers in the amount of R$ 100 at the Parent Company as at September 30, 2022 (R$ 200 as at December 31, 2021) and the consolidated statement of R$ 1,255 as at September 30, 2022 (R$ 3,818 as at December 31, 2021), for which no provisions were made.

20 Equity

a. Share Capital

The ownership structure is as follows:

	09/30/2022		
	Capital - R$	Number of shares	Interest
Shareholders			
GranInvestimentos S/A	377,662	93,038,165	86%
BNDES Participações S/A	600,000	15,094,340	14%
Total	**977,662**	**108,132,505**	**100%**

	12/31/2021		
	Capital - R$	Number of shares	Interest
Shareholders			
GranInvestimentos S/A	377,662	93,038,165	86%
BNDES Participações S/A	600,000	15,094,340	14%
Total	**977,662**	**108,132,505**	**100%**

b. Asset and liability valuation adjustments

Asset and liability valuation adjustments include accumulated adjustments for foreign-currency differences deriving from the translation of quarterly statements for foreign operations. In the 9-month period ended September 30, 2022, a translation gain of R$ 19,036 was recognized. The balance of the item as at September 30, 2022 is R$ 213,561.

c. Capital reserve

In a Shareholders' Agreement signed on April 30, 2013 between BNDESPAR and GranInvestimentos S.A. (Shareholders), it was stipulated that the shares were initially issued at R$ 39.75 each. The capital contributions after the signing of this Agreement have the share price adjusted by the Broad Consumer Prices Index (IPCA). The variation in the share price between the date of the Shareholders' Agreement until the date of the effective receipt of the capital contribution, is multiplied by the total number of paid-in shares, and this variation is recorded as a Capital Reserve.

As at September 30, 2022 and December 31, 2021, the total capital reserve was R$ 108,175.

21 Revenue from goods sold and services rendered

The table below breaks down the company’s gross revenue in accordance with CPC 47- item 112A.

	Consolidated			
	7/1/2022 to 9/30/2022	**1/1/2022 to 9/30/2022**	**7/1/2021 to 9/30/2021**	**1/1/2021 to 9/30/2021**
Revenue from collaboration agreement (i)	2,581	7,208	1,569	4,799
Service provision revenue (ii)	-	-	579	681
Resale of goods (ii)	-	-	-	7,544
Royalties revenue (iv)	100	442	-	136
Revenue	**2,681**	**7,650**	**2,148**	**13,160**
Equipment leasing revenue (v)	3,312	13,251	5,108	15,325
Other revenue	**3,312**	**13,251**	**5,108**	**15,325**
Total gross revenue	**5,993**	**20,901**	**7,256**	**28,485**
Sales taxes	(315)	(1,266)	(473)	(1,492)
Revenue from goods and services sold	**5,678**	**19,635**	**6,783**	**26,993**

(i) Revenue of R$ 7,208 (USD 1,401 thousand) due to the recognition of deferred revenue under the collaboration agreement with Nextchem and Birla, as detailed in note 18.
(ii) Operational revenue of the indirect subsidiaries GranBio Process Energy Recovery, Inc., Bio Plus and Avapco resulting from the provision of waste elimination and water treatment services, by using proprietary technology.
(iii) Operating revenue of the indirect subsidiaries BioFlex Agroindustrial S.A. and BioVertis Produção Agrícola Ltda. due to reselling sugarcane straw to CESM , domestic sales of cellulosic ethanol and sugarcane seedlings to other clients outside GranBio group.
(iv) Operating revenue from energy cane royalties.
(v) Operating revenue of the indirect subsidiary BioFlex Agroindustrial S.A. due to leasing electricity cogeneration assets, as per the contract signed with CESM.

For further information about operating revenue see Note 28 - Segment Reporting.

22 Cost of goods sold and services rendered

	Consolidated			
	7/1/2022 to 9/30/2022	**1/1/2022 to 9/30/2022**	**7/1/2021 to 9/30/2021**	**1/1/2021 to 9/30/2021**
Costs of services rendered (i)	(3,160)	(9,201)	(4,364)	(13,974)
Costs of goods sold (ii)	(6,040)	(18,564)	(7,095)	(36,041)
	(9,200)	**(27,765)**	**(11,459)**	**(50,015)**

(i) Operational cost of the indirect subsidiaries GranBio Process Energy Recovery, Inc. and Avapco resulting from the provision of waste elimination and water treatment services and Bioflex’s lease costs. The main cost is PP&E depreciation of R$ 5,490 as at September 30, 2022 (R$ 7,667 as at September 30, 2021).
(ii) The amounts denote the production costs of the indirect subsidiary BioFlex Agroindustrial S.A. due to reselling sugarcane straw to CESM and domestic sales of cellulosic ethanol. As at September 30, 2022 the depreciation cost allocated to cost of goods sold was R$ 16,295 (R$ 17,267 as at September 30, 2021).

23 Administrative and general expenses

	Parent Company				Consolidated			
	7/1/2022 to 9/30/2022	**1/1/2022 to 9/30/2022**	**7/1/2021 to 9/30/2021**	**1/1/2021 to 9/30/2021**	**7/1/2022 to 9/30/2022**	**1/1/2022 to 9/30/2022**	**7/1/2021 to 9/30/2021**	**1/1/2021 to 9/30/2021**
Personnel expenses	(44)	(249)	(171)	(645)	(2,218)	(5,869)	(2,719)	(8,426)
Services rendered (ii)	(4,147)	(7,496)	(1,743)	(4,755)	(9,449)	(17,029)	(3,904)	(11,621)
Occupancy expenses	(227)	(297)	(21)	(62)	(269)	(441)	(63)	(290)
Vehicle expenses	-	-	-	-	(6)	(45)	(68)	(515)
Insurance	(46)	(137)	(34)	(327)	(1,007)	(4,830)	(1,056)	(3,431)
Travel	(11)	(30)	(3)	(12)	(38)	(130)	(8)	(338)
Depreciation and amortization (i)	(55)	(139)	(43)	(130)	(4,866)	(14,855)	(5,237)	(15,658)
Selling expenses	-	(4)	(21)	(82)	-	(4)	(21)	(88)
General expenses (iii)	(15)	(54)	(15)	(71)	(381)	(943)	(433)	(5,175)
Provision for loss	-	-	-	-	-	-	-	-
Taxes and fees	(236)	(579)	(168)	(401)	407	(407)	1,016	(1,186)
Total	**(4,781)**	**(8,985)**	**(2,219)**	**(6,485)**	**(17,827)**	**(44,553)**	**(12,493)**	**(46,728)**

(i) Depreciation of other assets such as furniture, vehicles and IT equipment are recognized as a general and administrative expense. In the consolidated quarterly financial statements, the depreciation expense at September 30, 2022 was R$ 1,373 (R$ 1,418 at September 30, 2021) and the amortization expense for intangible assets at September 30, 2022 was R$ 13,483 (R$ 14,240 at September 30, 2021).

(ii) Denotes expenses on third-party services provided such as audit, tax and legal.

(iii) General expenses on maintenance, mail, fuel, materials for use and consumption and security materials.

24 Other operating income

	Consolidated			
	7/1/2022 to 9/30/2022	**1/1/2022 to 9/30/2022**	**7/1/2021 to 9/30/2021**	**1/1/2021 to 9/30/2021**
Recognition of right of use for access (i)	-	-	-	2,052
Proceeds from the sale of intangible assets (ii)	111,740	115,047		
Other operating income	5,165	4,011	117	2,253
Total other revenue	**116,905**	**119,058**	**117**	**4,305**
Provision for related-party losses	(4,661)	(15,145)	-	-
Income from the sale of property, plant and equipment (iii)	(91,241)	(91,634)	**-**	**-**
Income from the sale of other property, plant and equipment (iv)	-	-	277	(20,482)
Total other expenses	**(95,902)**	**(106,779)**	**277**	**(20,482)**
Total	**21,003**	**12,279**	**394**	**(16,177)**

(i) Recognition of right of use (lease) of the Thomaston plant due to the control acquisition and the business combination in March 2019. The recognized right to use was recorded based on the period embraced by this agreement.

(ii) As explained in Note 1, on September 08, 2022, the indirect subsidiary BioFlex Agroindustrial S.A. and Atlântica Sementes S.A, of Nuseed Group, entered a strategic long-term alliance to expedite investments in Research and Development (R&D) and sales in global sugarcane markets. Atlântica Sementes S.A acquired the commercial and sugarcane processing assets and the R&D program in order to improve the value of the energy produced by innovating in bioenergy cane. The transaction entailed the receipt of USD 25,000, with R$ 120,111 (USD 23,000) as down payment and R$ 10,813 (USD 2,000) payable by December 31, 2022. This sale led to a gain of R$ 115,767, with R$ 112,460 from the sale of intangible assets and R$ 3,307 from the transfer of customer advances to be performed by the buyer. In addition to this operation with Atlântica Sementes S.A, the Company wrote off intangible assets of R$ 720 due to the discontinuation of projects.

(iii) As at September 30, 2022, the Company's management authorized the sale of property, plant and equipment related to the thermoelectric plant of its indirect subsidiary BioFlex Agroindustrial S.A which had been leased to the Joint Venture Companhia Energética de São Miguel dos Campos (CESM). This sale generated a loss of R$ 90,636 and is a part of the process of only retaining at BioFlex assets related to its core activity of producing 2G ethanol. Furthermore, this sale completed the initial stage of negotiations with CESM shareholders due to the restructuring of the Joint Venture. In addition to this operation, the Company wrote off other property, plant and equipment in the amount of R$ 998.

(iv) In January 2021 Company management authorized the sale of obsolete equipment and property, plant and equipment of the indirect subsidiary BioFlex Agroindustrial S.A. thereby generating cash to settle short-term debts. These sales generated a loss of R$ 20,482 as at September 30, 2021.

25 Net financial income/loss

	Parent Company				Consolidated			
Financial expenses	**7/1/2022 to 9/30/2022**	**1/1/2022 to 9/30/2022**	**7/1/2021 to 9/30/2021**	**1/1/2021 to 9/30/2021**	**7/1/2022 to 9/30/2022**	**1/1/2022 to 9/30/2022**	**7/1/2021 to 9/30/2021**	**1/1/2021 to 9/30/2021**
Bank expenses	(218)	(258)	(9)	(29)	(526)	(570)	(12)	(43)
IOF (Tax on Financial Transactions)	(18)	(49)	(20)	(125)	(19)	(51)	(20)	(125)
Interest expenses (i)	(80)	(269)	(129)	(421)	(4,044)	(6,377)	(730)	(2,622)
Interest on loans, financing and debentures	(3,450)	(11,599)	(3,991)	(10,929)	(12,495)	(51,908)	(16,153)	(50,025)
Monetary adjustment liabilities	-	-	-	-	(434)	(434)	-	-
Exchange variance	-	-	(2,769)	(1,537)	-	-	(3,512)	(3,867)
	(3,766)	**(12,175)**	**(6,918)**	**(13,041)**	**(17,518)**	**(59,340)**	**(20,427)**	**(56,682)**
Financial revenue								
Interest received	-	-	-	-	2,106	2,157	284	868
Financial discounts obtained	1,144	1,144	-	23	1,299	1,356	5	75
Earnings on investments	2,145	5,283	776	1,760	870	871	1	77
Monetary adjustment	16	16	-	-	334	334	-	-
Exchange variance	(1,068)	1,101	-	-	(2,111)	2,116	(1,847)	1,071
	2,237	**7,544**	**776**	**1,783**	**2,498**	**6,834**	**(1,557)**	**2,091**
Net financial income/loss	**(1,529)**	**(4,631)**	**(6,142)**	**(11,258)**	**(15,020)**	**(52,506)**	**(21,984)**	**(54,591)**

(i) Interest mainly due to financial cost on loan guarantees obtained from financial institutions and interest and fines on late payments to suppliers and taxes.

26 Accumulated tax losses

a. Amounts recognized in profit or loss for the period – Consolidated

	Consolidated 09/30/2022	Consolidated 09/30/2021
Current income tax and social contribution expense		
Current year expense	-	-
Total	-	-
Deferred income tax and social contribution expense		
Temporary difference:		
Realization through amortization of intangible assets	3,596	3,735
	3,596	**3,735**

b. Deferred tax assets not recognized - Consolidated

The Group did not generate taxable profit in previous years and, therefore, there is increased doubt about whether future taxable profit will be available in the foreseeable future to realize deferred tax assets. As a result, deferred tax assets were not recognized as at September 30, 2022.

For the Brazilian companies, accumulated tax losses and the negative basis of social contribution never expire, but can only be offset against up to 30% of annual taxable earnings. The Company's total income and social contribution tax losses is R$ 880,610 as at September 30, 2022 (R$ 824,818 as at December 31, 2021)

For North American entities, tax losses accumulated before December 31, 2017 can be used in 20 years and there is no limit on taxable profit for the use of these losses. Tax losses generated after December 31, 2017 can be used indefinitely and can be used to offset only 80% of taxable income for the current year. The total tax loss is R$ 120,142 as at September 30, 2022 (R$ 100,383 as at December 31, 2021)

Tax returns for all companies are subject to tax inspections and reviews by the tax authorities for varying periods. As a result of these inspections and reviews, questions may arise about the methodologies, criteria and interpretations of the legislation by the authorities and, therefore, change the amounts recognized by the Group in the quarterly statements and/or result in judicial questions.

c. Movements in deferred tax balances

	Consolidated
Opening net balance at December 31, 2020	**58,003**
Realization through amortization of intangible assets	(3,735)
Exchange variance on translating taxes from functional currency to reporting currency	2,634
Closing net balance at September 30, 2021	**56,902**
Opening net balance at December 31, 2021	**57,075**
Realization through amortization of intangible assets	(3,596)
Exchange variance on translating taxes from functional currency to reporting currency	(1,969)
Closing net balance at September 30, 2022	**51,510**

27 Financial instruments and risk management

Operations with financial instruments are fully recognized in the accounts and restricted to cash and cash equivalents, accounts receivable, loans and borrowings, and other accounts receivable and payable from related parties, loans, financing and debentures, trade payables and other accounts payable.

The Group and its direct and indirect subsidiaries do not invest in derivatives or any other risky assets on a speculative basis.

The Group and its direct and indirect subsidiaries assess such financial assets and liabilities with respect to market value was conducted on the basis of available information and appropriate assessment methods. However, the interpretation of market data and selection of assessment methods requires considerable judgment and estimates to calculate the most appropriate realizable value. As a result, the estimates do not necessarily indicate the values that could be realized in the current market.

The activities of the Company and its direct and indirect subsidiaries expose them to various financial risks: credit risk, liquidity risk and market risk (including interest rate risk), as described below:

a. Credit risk

Credit risk is the risk of financial loss to the Company if a customer or counterparty to a financial instrument fails to meet its contractual obligations. This risk is primarily posed by trade receivables.

The carrying amount of financial assets represents the maximum credit exposure.

The Company has a credit policy whose purpose is to set procedures for granting loans in business transactions that are in line with the required levels of quality, fastness and security.

The Group determines credit limits by analyzing the client's credit standing, considering: (i) onboarding information (ii) economic and financial information and (iii) historical purchases and payments.

b. Liquidity risk

The cautious management of liquidity risk implies keeping enough cash and securities and credit facilities to be able to settle market positions. Due to the dynamic nature of their businesses, the Group and its direct and indirect subsidiaries use flexible funding by maintaining bank credit facilities.

Management monitors the level of the Company and its direct and indirect subsidiaries' liquidity, considering the expected cash flow and cash and cash equivalents. Furthermore, the liquidity management policy of the Company and its direct and indirect subsidiaries entails projecting cash flows and considering the level of net assets required to achieve these projections and maintain the debt financing plans.

Management is continuing to look into alternatives to guarantee a balanced capital structure information. See further information in notes 1 and 31.

The following are the remaining contractual financial liability maturities and exclude the impact of netting agreements:

	Parent Company				
Non-derivative financial liabilities	**Carrying amount**	**6 months or less**	**6 to 12 months**	**1 to 3 Years**	**Over 3 Years**
Loans and financing*	133,646	4,670	5,061	93,868	149,843
Trade payables	1,052	1,052	-	-	-
Related parties	375,270	375,270	-	-	-
	509,968	**380,992**	**5,061**	**93,868**	**149,843**

	Consolidated				
Non-derivative financial liabilities	**Carrying amount**	**6 months or less**	**6 to 12 months**	**1 to 3 Years**	**Over 3 Years**
Loans and financing*	569,625	316,583	88,782	227,096	68,206
Trade payables	51,270	51,270	-	-	-
Related parties	402,710	402,710	-	-	-
Other accounts payable	19,903	17,926	-	1,977	-
	1,043,508	**788,489**	**88,782**	**229,073**	**68,206**

* Amounts in each age range have projected interest to be incurred.

The maturity analyses of the Group do not project cash flows that could occur significantly earlier or at significantly different amounts.

c. Market risk

The Group is exposed to interest-rate changes, charged on its loans and financing and exchange variance on the assets and liabilities of the overseas-based direct and indirect subsidiaries. To minimize possible impacts triggered by these changes, the Group adopts the policy of diversifying these contracts.

The Group is primarily exposed to changes in CDI, IPCA and TJLP interest rates, which are applied to its loans and financing.

At the quarterly reporting date, the profile of the Company's financial instruments yielding interest was:

	Carrying amount			
	Parent Company		Consolidated	
Variable-income instruments	**09/30/2022**	**12/31/2021**	**09/30/2022**	**12/31/2021**
Liabilities				
Loans and financing (CDI)	-	(12,637)	(219,998)	(214,743)
Loans and financing (IPCA)	-	-	(215,980)	(201,472)
Loans and financing (TJLP)	(133,646)	(134,802)	(133,647)	(134,802)
Total	**(133,646)**	**(147,439)**	**(569,625)**	**(551,017)**

The profile of the assets and liabilities resulting from the consolidation of the direct and indirect subsidiaries in USD as the functional currency has been summarized below, and is exposed to exchange variance:

	Consolidated	
Instruments exposed to exchange variance	**09/30/2022**	**12/31/2021**
Assets		
Cash and cash equivalents	67	268
Accounts receivable	966	579
Credits receivable	168	174
Other financial assets	58,658	60,489
	59,859	**61,510**
Liabilities		
Trade payables	(12,952)	(16,135)
Other accounts payable	(2,749)	(3,146)
Accounts payable	(12,765)	(13,678)
	(28,466)	**(32,959)**

Cash flow sensitivity analysis for variable-rate instruments and exchange variance

The sensitivity analysis took into account the loans and borrowings which are restated by the CDI, TJLP and SELIC rates.

The sensitivity analysis on interest rates on loans, financing and debentures considers an increase and reduction of 25% and 50% in interest rates and how this would impact equity and results. This analysis takes into account the amounts presented in the quarterly statements as at September 30, 2022. Except for the previously mentioned 25% and 50% variation, no other changes were projected:

						09/30/2022
Interest rate exposure	**Balances**	**Probable**	**25%**	**50%**	**-25%**	**-50%**
Loans and financing						
TJLP	133,646	8,607	10,759	12,910	6,455	4,303
IPCA	215,981	12,548	15,686	18,823	9,411	6,274
CDI	219,998	26,290	32,862	39,435	19,717	13,145
Profit or loss for the period	**569,625**	**47,445**	**59,307**	**71,168**	**35,583**	**23,722**

The interest rates the Company is subject to, based on projections of these rates in a probable scenario and the sensitivity analysis, are the following:

					09/30/2022
	Probable	**25%**	**50%**	**-25%**	**-50%**
TJLP (i)	6.44%	8.05%	9.66%	4.83%	3.22%
IPCA (ii)	5.81%	7.26%	8.72%	4.36%	2.91%
CDI (iii)	11.95%	14.94%	17.93%	8.96%	5.98%

(i) Interest rates were based on information available at the BNDES Source: BNDES
(ii) Interest rates were based on information available at the BNDES Source: BNDES
(iii) Interest rates were based on information available at CETIP

The sensitivity analysis into the exchange rates with the 25% and 50% increase and decrease in the consolidated figures is as follows, including the most likely dollar variance used for translation at September 30, 2022. As at September 30, 2022, the USD exchange rate was R$ 5.4066 to the dollar:

Exposure to exchange rates	Carrying amount in R$	Probable - USD	25%	50%	-25%	-50%
Assets	59,859	11,071	14,965	29,930	(14,965)	(29,930)
Liabilities	(28,466)	(5,265)	(7,117)	(14,233)	7,117	14,233
Exposure in profit or loss for the period		**5,806**	**7,848**	**15,697**	**(7,848)**	**(15,697)**

For the effects of the investments in overseas subsidiaries, see below the sensitivity analysis with the probable scenario for the future exchange rate:

					09/30/2022
	Probable	**25%**	**50%**	**-25%**	**-50%**
US dollar (USD)	5.4066	6.7583	8.1099	4.0550	2.7033

Capital management

The objective of the Company’s capital management is to ensure that it maintains its strong credit rating with the financial institutions and its excellent capital ratio, in order to support the Company’s business and maximize value for its shareholders. The Group and its direct and indirect subsidiaries control their capital structures by making adjustments and adapting to the existing economic conditions. In its net debt structure, the Group includes loans and financing less cash and cash equivalents.

	Parent Company		**Consolidated**	
	09/30/2022	**12/31/2021**	**09/30/2022**	**12/31/2021**
Cash and cash equivalents	1	-	112,223	274
Short-term investments	59,811	54,528	-	-
(-) Loans and borrowings	(133,647)	(147,439)	(569,625)	(551,017)
Net debt	**(73,835)**	**(92,911)**	**(457,402)**	**(550,743)**
Equity	470,872	578,962	474,142	582,492
Equity and net debt	**397,037**	**486,051**	**16,740**	**31,749**

Classification of financial instruments

The table below shows the main financial instruments by category.

Parent Company

	Amortized cost	
Financial assets	**09/30/2022**	**12/31/2021**
Cash and cash equivalents	1	-
Loans and other accounts receivable from related parties	12,395	-
Total	**12,396**	-
Liabilities		
Trade payables	1,052	4,544
Leases	1,968	2,018
Related-party loans	375,270	316,354
Loans and financing	133,646	147,439
Accounts payable	117	100
Total	**512,053**	**470,455**

	Fair value through profit or loss	
Financial assets	**09/30/2022**	**12/31/2021**
Short-term investments	59,811	54,528
Total	**59,811**	**54,528**

Consolidated

	Amortized cost	
Financial assets	**09/30/2022**	**12/31/2021**
Cash and cash equivalents	112,223	274
Loan and accounts receivable from related parties	103,561	83,540
Other receivables	168	174
Accounts receivable	11,585	1,294
Total	**227,537**	**85,282**
Liabilities		
Trade payables	51,270	63,720
Leases	1,968	2,018
Loans and financing	569,625	551,017
Related-party loans	341,030	281,011
Other accounts payable to related parties	61,680	56,714
Other accounts payable	19,903	20,283
Total	**1,045,476**	**974,763**

The fair values of the financial instruments presented do not significantly vary from the balances presented in the statement of financial position.

28 Segment reporting

Basis for segmentation

The Group has the following 3 strategic divisions, which are its reportable segments. These divisions offer different products and services, and are managed separately because they require different technologies. The following summary describes the operations of each reportable segment of the Company:

Reportable segments	Operation
BioVertis	Company engaged in the experimentation, development, plantation, production and collection of biomass, i.e., Vertix energy cane and sugarcane straw.
BioFlex	Production of biomass, processing biomass for the production and sale of biofuel, electricity, biochemicals and pharmachemicals, technological research and development, sale of sugarcane straw, bagasse and biomass.
Biotech	Development of technology to convert biomass into cellulosic ethanol, biochemicals and nanocellulose.

Information about reportable segments

Information related to each reportable segment is set out below. The performance is assessed based on final net income, as Management believes that this information is the most important for assessing the results of the respective segments.

	09/30/2022				
	BioVertis	**BioFlex**	**Biotech**	**Other**	**Total**
Revenue from goods and services sold	316	12,111	7,208	-	19,635
Cost of goods sold and services rendered	-	(18,564)	(9,201)	-	(27,765)
Gross Profit / (Loss)	**316**	**(6,453)**	**(1,993)**	**-**	**(8,130)**
Operating revenues (expenses)	(2,448)	(7,615)	(10,785)	-	(20,848)
Administrative expenses	(1,326)	(572)	(12,818)	-	(14,716)
Depreciation and amortization	(795)	11,655	(109)	-	10,751
Other revenues (expenses)					
	(4,569)	3,468	(23,712)	-	(24,813)
Net (loss) before financial revenues and expenses	**(4,253)**	**(2,985)**	**(25,705)**	**-**	**(32,943)**
Financial revenues	20	1,522	2,161	-	3,703
Financial expenses	(646)	(51,731)	(71)	-	(52,448)
Financial expenses, net	**(626)**	**(50,209)**	**2,090**	**-**	**(48,745)**
Deferred income tax and social contribution	-	-	3,596	-	3,596
Net (loss) for the period – Subtotal	**(4,879)**	**(53,193)**	**(20,019)**	**-**	**(78,091)**
Other					(11,223)
Net (loss) for the Period	**(4,879)**	**(64,416)**	**(20,019)**	**-**	**(89,314)**

Segment reporting – Assets	**BioVertis**	**BioFlex**	**Biotech**	**Other**	**Total**
Inventories	-	8,617	-	-	8,617
Property, plant and equipment	2,972	738,607	8,384	2,515	752,478
Intangible assets	27,389	(15,388)	593,447	-	605,448

Segment reporting – Liabilities	**BioVertis**	**BioFlex**	**Biotech**	**Other**	**Total**
Loans and financing	(7,462)	(550,007)	-	(12,156)	(569,625)
Other accounts payable	(257)	(16,780)	(2,749)	(117)	(19,903)
Lease liabilities	-	-	-	(1,968)	(1,968)

	09/30/2021				
	BioVertis	**BioFlex**	**Biotech**	**Other**	**Total**
Revenue from goods and services sold	133	21,381	5,480	-	26,994
Cost of goods sold and services rendered	-	(36,041)	(13,974)	-	(50,015)
Gross Profit / (Loss)	**133**	**(14,660)**	**(8,494)**	**-**	**(23,021)**
Operating revenues (expenses)					
Administrative expenses	(2,868)	(12,058)	(9,335)	-	(24,261)
Depreciation and amortization	(964)	(698)	(13,578)	-	(15,240)
Other revenues (expenses)	-	(20,256)	4,172	-	(16,084)
	(3,832)	(33,012)	(18,741)	-	(55,585)
Net (loss) before financial revenues and expenses	**(3,699)**	**(47,672)**	**(27,235)**	**-**	**(78,606)**
Financial revenues	(3)	1,126	868	-	1,991
Financial expenses	(535)	(43,246)	(1,490)	-	(45,271)
				-	
Financial expenses, net	**(538)**	**(42,120)**	**(622)**	**-**	**(43,280)**
Deferred income tax and social contribution	-	-	3,735	-	3,735
Net (loss) for the period – Subtotal	**(4,237)**	**(89,792)**	**(24,122)**	**-**	**(118,151)**
	-	-	-	-	(18,632)
Net (loss) for the Period	**(4,237)**	**(89,792)**	**(24,122)**	**(18,632)**	**(136,783)**

Segment reporting – Assets	**BioVertis**	**BioFlex**	**Biotech**	**Other**	**Total**
Inventories	13	6,589	-	-	6,602
Property, plant and equipment	3,807	877,335	16,811	3,192	901,145
Intangible assets	28,813	111	613,254	-	642,178

Segment reporting – Liabilities	**BioVertis**	**BioFlex**	**Biotech**	**Other**	**Total**
Loans and borrowings	(6,924)	(515,070)	-	(95,347)	(617,341)
Other accounts payable	(208)	(16,024)	(116,843)	(82)	(133,157)
Lease liabilities	-	-	-	(2,033)	(2,033)

29 Earnings (loss) per share

In compliance with technical pronouncement CPC 41 (IAS 33) - Earnings per share, approved by CVM Resolution 636, the Company presents the following information on earnings per share for the period ended September 30, 2022 and FY 2021.

Basic: the basic calculation of earnings per share is done by dividing the profit (loss) for the period, attributed to the holders of the Parent Company's common shares (numerator), by the weighted average number of common shares available during the period (denominator).

Diluted: the diluted earnings per share are calculated by adjusting the profit or loss for the year attributable to the holders of the Company's common shares by the weighted average number of outstanding common shares for the effects of all potential diluting common shares. The Company does not have any potential common shares.

The table below provides data on earnings and the shares used in calculating basic and diluted earnings per share, which are identical because the Company does not have potential common shares.

	09/30/2022	**09/30/2021**
Loss for the period	(89,054)	(136,163)
Weighted average number of common shares (in thousands)	180,133	108,133
Basic and diluted loss per share (in Reais)	**(0.8236)**	**(1.2592)**

30 Insurance

As at September 30, 2022, the Company and its subsidiaries have the following insurance contracts and amounts considered compatible by management with the risks involved:

- PP&E and inventory (approximate coverage - R$ 563,346)
- Civil liability: coverage for material and personal damages caused involuntarily to third parties as a result of the production, facilities and assemblies taking place on the insured site;
- Administrative (approximate coverage - R$ 473,489)
- Administrative head office: fire, lightning strike, explosion, theft, qualified theft, civil liability and others.

Given their nature and specific features, the risk assumptions made and the respective coverage are not covered by a quarterly statements audit, and were not therefore reviewed by our independent auditors.

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Members of the Executive Board

Bernardo de Almeida Gradin
Chief Executive Officer

Guilherme Mottin Refinetti
CFO

Dejair Adão Guerro de Oliveira
Controller
CRC PR-052741/O-4-T-CE